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AI Initiatives: The AI initiatives table sets out the data collected to map players in the AI space in South Africa. Most of the AI initiatives and start-ups found make use of facial recognition technologies, automated decision-making systems, machine learning and natural language processing. The data in this table was drawn from websites such as the IndabaX website, Alliance 4 AI, Centre for Artificial Intelligence Research, Zindi, and arXiv. The use of AI in South Africa is scattered across different industries including the financial sector, marketing, medicine, security, education, agriculture and transport and logistics, with the finance sector showing the highest number of AI and tech start-ups. The list is not exhaustive but provides insights some AI based systems mapped in the research.

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Insurtech

'Insurtech' is a combination of insurance and technology. It refers to the use of technological innovations to reduce the time and costs of insurance, some Insurtech companies
offer insurance cover in 60 seconds. This is only possible with the use of vast amounts of data and the process accumulates an immeasurable amount of personal data
which is potentially exposed to data breaches.

Initiative	Description
Naked Insurance	**Natural language processing, machine learning:** Naked Financial Technology uses the power of Artificial Intelligence (AI) to give clients total control, value for money and the fairest car, home and building insurance. They use a technology platform that has been developed from scratch – without linking to any legacy insurance system to provide end-to-end AI-driven car, home and buildings insurance.
Pineapple	**Natural language processing, machine learning:** Pineapple is a Johannesburg-based insurance start-up providing cover. The firm's insurance operates through an app which allows users to take a picture of the item they wish to insure. A machine learning algorithm that's trained using thousands of pictures then ascertains

	what the item is, prompts the user to enter its value and proceeds to offer an insurance policy and monthly premium. Another unique feature of the app and the Pineapple business model is the existence of a wallet, which documents a user's monthly premium payment and allows them to see how much of their premium is spent on the claims of others.
Yalu	**Natural language processing, machine learning:** This startup offers "more affordable and transparent" credit life insurance. The startup launched its first product in June 2018, which covers personal loans.
FNB Life Insurance	Funeral insurance from FNB
iWyze	Personal and business insurance
Tautona	**Machine learning; data mining:** Automated insurance claim processing - the company is of the belief that when a policyholder submits an insurance claim, that action should trigger an instant decision with the outcome immediately communicated back to the policyholder. Tautona's algorithms identify patterns in the data that they collect which allows them to identify fraudulent claims with a greater degree of accuracy than traditional insurers. Their models consist of proprietary algorithms that learn from and make predictions on data and the relationships between data.
Click2Sure	**Deep learning; data science:** Click2Sure is a digital insurance platform which enables retailers, service providers, distributors and brokers to offer a selection of over 20 custom developed insurance products at the point of sale. The start-up is a technology company and user expert.
InvestSure	**Deep learning; data science:** InvestSure reduces risk for investors by insuring their listed shares against losses arising out of the deceptive or misleading acts of management of the company. InvestSure created a world first insurance product that protects investors from losses in the share price which are caused by allegations of management misleading or deceiving the public. Such events include accounting fraud, bribery, collusion etc. The company created a completely automated insurance experience. No paperwork is needed, the company's automated and integrated system sees your loss and immediately pays your claim if you lose any money to fraud and make a claim within 30 days. The company's fraud insurance product runs on trading platforms and is targeted at individuals investing in the JSE and asset managers.
Simply	**Machine learning; data science:** Simply is largely dependent on tech. The company's co-founder describes it as "fundamentally a product design and digital technology business". The company simplifies and speeds up the process of buying insurance by using the latest technology and intelligent human-centered design. The company's tech stack is "very much Google-based" and the startup also makes extensive use of Facebook tools. The company tries to automate everything, from lead generation to sale so it can measure and manage all our key performance indicators (KPIs). Simply works with Old Mutual Alternative Risk Transfer (OMART), with which it has cell captive arrangement. Under this arrangement, they essentially develop and sell products on the OMART insurance license and OMART underwrites Simply products, which means they are the insurer with whom Simply clients are contracted, and they are responsible for paying claims. The insurtech also works in partnership with Reinsurance Group of America (RGA), which acts as Simply's reinsurers. So, while claims are paid by OMART, part of the premium is

	passed on to RGA who then cover a significant portion of the cost of claims when they arise.
Ctrl	Ctrl is a car and household insurance advice app, where individuals can receive and accept quote options from a variety of insurers on their mobile phones.

Transport and logistics

AI has been used in transport and logistics to calculate the shortest and fastest routes; track shipments; record consignments; and to insure freight. There is a low uptake of AI
in transport and logistics in South Africa, at present.

Initiative	Category
MellowCab	**Multiple forms of AI:** Mellowcabs are South African developed and manufactured electric vehicles. The main plant is in Stellenbosch and the body plant is in Somerset West.
EmptyTrips	**Machine learning:** EmptyTrips powers an intermodal freight open exchange which instantly matches carriers & shippers to book, auction, manage, store & insure freight. EmptyTrips uses machine learning & smart matching algorithms to create a marketplace where shippers, agents & transport carriers can connect, bid for cargo, find transport assets to move their cargo, & even store or insure it. By making use of the platform you can safely find carriers, transact securely & significantly lower your transport costs.

Business consultancies

Businesses are using machine learning technologies to set up chat robots (chatbots) which interact with their clientele. This saves time and money as it sets up a continuously
open platform, operated by a robot, to meet all customers' needs without hiring human help. Businesses have also made use of deep learning, natural language processing,
and other various aspects of AI to automate their processes, for economic purposes.

Initiative	Category
DataProphet	**Machine learning:** DataProphet is a machine learning specialist that provides consulting and product development services across a range of industries, from finance to law. The startup, based in Cape Town, has developed various machine-learning interventions, mainly for the finance and insurance sector. It has also added a number of large industrial and fast-moving consumer goods clients, some of which are international clients.
Qualip Solutions	**Various aspects of AI:** Qualip Solutions is a software and application development consulting company which builds applications and systems to help organisations automate their processes.
KryszanTec	KryszanTec has developed Subware, a solution that allows businesses to understand how they are spending money on IT. Through the solution, the company is able to show a business how much it would cost them to move to any new technology.
Smartech Holdings	**Software development:** Smartech Holdings is a custom software development company which helps clients digitally transform their businesses through solutions that are tailored to clients' requirements.
Zyelabs	**Data engineering, data science:** Zyelabs facilitates and supports data driven decision-making so that clients can improve their customer experience, boost revenue and reduce costs. The firm helps companies make sense of big data by providing data engineering, data science and analytics and data operations services.
BotsZA	**Machine learning; big data deep learning; natural language processing:** BotsZA is a research and development company specialising in applications powered by AI. The startup helps companies integrate AI, machine learning and chatbots into their business processes to improve their customer experience, productivity and efficiency.
Konecta	Konecta builds wireless networks and platforms to enable value-added services and data analytics.the company is committed to creating the best wired and wireless network for delivery of Internet access, voice, Wi-Fi, including value added services and solutions.
Troye	Troye is a technology solutions specialist providing professional managed IT services. Over the past decade Troye has designed and implemented superior integrated IT solutions for its Small, Medium and Enterprise customers, concentrating on End-To-End Virtualisation Solutions.

Gijima	**Different aspects of AI:** Gijima describes itself as an integrated ICT partner to a considerable client base of large information technology users in both the private (financial services, retail, manufacturing, and mining) and public sectors.
Matoto Technologies	**Different aspects of AI:** Matoto Technologies is an Information and Communications Technology solutions provider company that opened for trading in 2009.
EOH	**Different aspects of AI:** EOH provides technology-agnostic business advice and delivers practical, actionable and tangible business and technology knowledge services. The EOH business model embraces consulting, technology, and outsourcing. These services are applied to provide high-value, end-to-end solutions for our clients.
Genii AI	**Artificial Intelligence; machine learning; natural language processing:** Genii Ai is a SaaS development company. They provide customer technology solutions, artificial intelligence (AI) and machine learning solutions to Top 500 companies in the Financial Services, Telco, Healthcare, Insurance, Automotive and Retail sectors. They have also developed their own proprietary Ai machine learning capability and algorithms on a cloud based GDPR compliant platform.
Dimension Data	Offers different digital solutions for businesses in automotive, education, healthcare, finance, mining and retail industries
Mint Group	**Different aspects of AI:** Mint group is a global IT consultancy and development house. They "enable better business by digitally leading our clients through Customer Centricity and Optimised Operations with Dynamics 365, Modern Minds with Office 365, Smarter Systems with Azure, and Intelligent Insights with Artificial Intelligence and Cognitive Services in the digital space."
Cortex Logic	**AI, data science:** "We work across multiple business and industry domains seeking to augment and automate legacy processes, ultimately transforming them into intelligent systems, using the Cortex Logic AI Engine. The Cortex Logic AI Engine solves strategic and operationally relevant problems by leveraging Data Science, Internet of Things (IoT) and Big Data & Analytics."
Data Wizzards	**Business process automation, technology consultancy, big data:** The company builds AI products for companies such as chatbots, AI powered health platforms and cloud integration solutions
Emerge Analytics	**Data Analytics:** Emerge Analytics is an advanced data analytics solution that helps clients navigate and optimise corporate data to deliver better answers, new insight and improved profitability.

Finance

Finance technology is also known as 'fintech'. Fintech combines the aspects of finance such as financial management, with technology to detect risks and trends in the
financial sector. Fintech start-ups, banks and well-established financial institutions are making use of data science, machine learning and big data learning to aid in their businesses.

Initiative	Category
Vizibiliti	**Various aspects of AI:** Vizibiliti Insight is a specialist in Alternative Financial Risk Management. They provide the financial services industry with Alternative Risk Scoring data, Artificial Intelligence insights and Business Process Automation platforms to maximise profitability and reduce cost.
GeoPay	GeoPay is a peer-to-peer (P2P) blockchain remittance platform that helps people living in the diaspora to transfer money across borders quicker and more affordably.
FNB Manila	**Natural language processing:** FNB announced the launch of Manila, an artificial intelligence solution to monitor certain regulatory and financial risks, including tax evasion, money laundering, fraud, and insider trading. This will save the bank time and resources as these processes often require lots of time and resources.
JUMO	**Data science and machine learning:** JUMO is a full technology stack for building and running financial services. "Our partners use our technology stack to offer savings, lending and insurance products to entrepreneurs in emerging markets. These next-generation products give anyone with a cell phone and mobile wallet access to unprecedented financial choice, enabling millions of people to prosper, build their businesses and drive economic growth". The company uses automation, artificial intelligence and machine learning to build accurate credit scores and targeted financial products for people without a financial footprint.
Hydrogen	Hydrogen facilitates digital financial innovation by enabling organisations to build solutions and products – across savings, investment, wellness and insurance – by configuring the relevant combination of application programming interfaces and business logic.
Paycode	Paycode provides financial service access to the unbanked by giving them a biometric identity. Through its technology, Paycode provides solutions that enable, among other things, a national payments infrastructure, social grant distribution, international remittances, card payment infrastructure, and token management systems.
Ukheshe	Ukheshe allows informal merchants, traders, street vendors and casual labourers to accept real-time digital payments from cardholders or different payment apps, without needing to have a bank account.

Agriculture

AI technologies programmed into drones and robots have been used in agriculture for image processing, data analytics and machine learning. Drone footage is analysed to detect crops under attack from pests and robots have been deployed to pick produce on farms in the global north. In South Africa, satellite imagery is being used as part of farming technology.

Initiative	Category
Aerobotics	**Image processing, machine learning:** Aerobotics develops a geospatial Intelligence platform that enables pest and disease detection in tree crops using drones, satellite imagery, and artificial intelligence to interpret all the big data that's being collected. They developed an AI algorithm that can analyze image data and this analytical tool can be applied across many industries.
Congretype	Congretype provides societal-based solutions in renewable energy, ICT for development, and climate-smart agriculture.

Security

Biometric security features are used to authenticate banking transactions, to unlock mobile phones and for security purposes. Different aspects of AI have been deployed for the above-mentioned purposes in South Africa, but there has also been an increase in the uptake of AI technologies by security companies. Concern has been raised on the lack of regulation of these biometric systems such as the increase in CCTV cameras in residential areas and on business premises which collect vast amounts of personal data such as number plates without the consent of the people that all this information is being collected from.

Initiative	Category
OneVault	**Different aspects of AI:** OneVault develops authentication solutions using different technology platforms. They offer additional biometric modalities that will support their client's authentication requirements. They specialise in voice biometrics and also offer face biometrics. The site states that the OneVault services have been developed for use in South Africa, using voices with characteristics that are specific to South African nationals, such as language, accent, dialect etc., and using the various telephony, VoIP and recording systems available in South Africa.
Vumacam	**Different aspects of AI:** The network is privately funded, and vetted security companies pay to access the feed in their areas. Overview and LPR (licence plate recognition) cameras are streamed via a fibre network (to ensure a consistent, reliable feed) to a secure data centre that records (for an overview) or queries databases of vehicles of interest (for LPR, for example for vehicles that might be stolen). Security companies enter into a contractual agreement with Vumacam, which grants them access to the feed. However, they are not able to download the footage. In the event they need footage, they have to approach Vumacam with official documentation from the SAPS, such as a case

	number.
Dahua Security	**CCTV security:** Dahua Technology is a video centric smart IoT solution and service provider. Based on technological innovations, Dahua Technology offers end-to-end security solutions, systems, and services to create values for city operations, corporate management, and consumers. The company has established business in machine vision, video conferencing systems, professional drones, electronic license plates, RFID, and robotics etc.
Hikvision	**Surveillance technologies:** Hikvision provides security products and solutions to smart home tech, industrial automation, and automotive electronics industries.
Nashua	**CCTV Surveillance:** The company offers surveillance and access control solutions such as CCTV and fever screening solutions. Nashua has partnered with Hikvision to provide digital (IP) or analogue CCTV, indoor or outdoor, thermal or ANPR cameras, and other high-performance, cost-effective products. Since most crime happens at night, improving video quality during night-time hours is one of the most important concerns of the video surveillance industry, and Hikvision's range of DarkFighter Technology provides crystal clear images even in the dark. The solutions they offer also allow you to access your business surveillance equipment 24/7 from any smart device, allowing you to check on the security of your business no matter where you are. Nashua Fever Screening Solutions offers Hikvision's Fever Screening Thermographic Cameras with advanced detectors and algorithms to detect elevated skin-surface temperatures, and can thus be used for rapid and preliminary fever screening in office buildings, factories, stations, airports and other public places, with accuracy up to ±0.3℃.
AI Surveillance	**CCTV monitoring:** The company uses their technology, linked directly to an armed response service or onsite guards, to keep residential and commercial properties safe. They also learn the normal behavioural patterns of your monitored environment to enable it to only alert when unusual behaviour is detected. They also monitor your security footage for any unusual/suspicious behaviour. All camera feeds are pulled into a single platform and customers are alerted in real-time.
Iris AI	**Different aspects of AI:** Iris AI provides artificial intelligence solutions. The software solutions include Silo, a tool used to consolidate your risk & safety compliance issues, Armoury a firearm management tool, Maestro a physical security information management platform, & Alchemy a machine intelligence framework that supports the creation of boutique expert systems.
ISDS	**Deep learning:** ISDS suites are AI-driven behavioural analytics, autonomous target detection, deep-learning filters and biometrics to analyse full surveillance stacks, both in real time and forensically. Their systems possess features including behaviour analysis, object detection and classification, video tripwires, facial recognition, license-plate recognition, people-counting and dwell-time monitoring – for a host of security and business applications.

Medicine

The medical sector has employed the use of AI technologies such as machine learning, deep learning, data analytics, and automated decision making to make advancements in the medical field. Deep learning algorithms have been used to detect Covid-19, to fast-track Covid-19 testing and for geo mapping of Covid-19 hotspots. AI has also been used to make medication accessible to people in rural areas which were previously inaccessible.

Initiative	Category
Accrad	**Machine learning, deep learning, radiology, deep neural networks:** Accrad Technologies is an Artificial Intelligence software company that has developed CheXRad, a deep learning algorithm to concurrently detect COVID 19 and 14 clinically important diseases in chest radiography. They use AI to make more accurate and faster image diagnosis.
Recomed	**Different aspects of AI:** The startup's platform enables patients to find their closest doctor at any hour of the day or night and to book the next available appointment. The system reduces practice costs and enhances a customer-centric care policy, as patients are at liberty to recommend their medic to the general population and comment on their experience.
EMGuidance	**Various aspects of AI:** A startup which aggregates medical content from regional experts for medical professionals in one app and platform. It provides instant access to locally relevant medicines information & guidelines for medical professionals.
iMed Tech	**Different aspects of AI:** iMed Tech is a Biotechnology company specializing in the design and manufacturing of custom-made medical solutions to improve the lives of Africans. The company's products are produced with the goal of creating innovative medical solutions to help people requiring custom-made medical prosthesis, bioimplants and other medical solutions to assist in enhancing lives and improving their overall health.
Numberboost	**Data science, machine learning** The company describes itself as a data science studio that builds custom Artificial Intelligence solutions.
Hyrax Biosciences	Online software to detect medical mutations. Exatype, the flagship genotyping tool, is used globally for SARS-CoV-2 genotyping and HIV drug-resistance testing and can be extended to any organism.
Envisionit Deep AI	**Machine learning:** Envisionit Deep AI is an innovative medical technology company using Artificial Intelligence to transform medical imaging diagnosis. Trained and validated by radiologists for medical practitioners, our products detect and highlight abnormalities across the different diagnostic imaging modalities.
Phulukisa Health Solutions	**Automated decision making:** The company, in partnership with Microsoft and IOT Solutions developed a cloud-based program that captures patients' biometric information and triages them automatically. Their intelligent programming takes common measurements and combines the results to

	deliver a computed risk-analysis of the most common diseases out there.
	The Phulukisa app allows primary healthcare workers to remotely manage patients. They can electronically capture patients' medical information including weight, body mass index, and blood pressure using IoT sensors, and store these files on the Azure cloud platform. These metrics feed into an algorithm which will flag only abnormalities and help to triage and escalate serious conditions.
Broadreach Healthcare	**Health technology, geo mapping, and data analytics** Broadreach Healthcare works by mapping supply and hospital readiness data to patient demand and available health services, drawing on AI and data analytics to predict future outbreaks and pressure points.
DrConnect from Discovery Health	Discovery Health's DrConnect app is using AI technology to provide users with tailored assessments of medical symptoms, advice and remote support. Drawing on data relayed from wearable devices - including sleep, behavioural and mood data - this app uses AI to provide specific medical and lifestyle advice.

Facial recognition

Facial recognition technologies have been deployed for cybersecurity and to boost revenues in businesses in the examples that were found during the course of this research. However, this area is still, largely, unregulated and raises concerns of data security and issues of privacy violations. Facial recognition technologies have also been deployed to detect moods in employees in their workplaces and shoppers in the retail industry.

Initiative	Category
Camatica	**Facial recognition:** Camatica is a South African facial recognition start-up specialising in facial recognition for the business. Camatica was created to help companies derive value from their video footage using computer vision algorithms. Value in the form of face recognition for VIP's, shoplifters, shopper demographics, mood analytics and retail analytics. The platform connects to a company or business camera feed and analyses the feed using computer vision.
iiDENTIFii	**Facial recognition:** iiDENTIFii specialises in remote biometric identity authentication. iiDENTIFii works by providing biometric liveness, facial verification, and validating data through secure triangulated authentication. iiDENTIFii develops technology that leverages neural networks and deep-learning for tokenized identity authentication. The product is in line with KYC, RICA, FICA, AML and other South African government requirements and the company says that its technology is specifically built for South Africa, elsewhere in Africa and developing markets. The aim is to protect their clients (which include governments, individuals and businesses) against the financial burden and trauma caused by identity fraud.
Raphta	**Machine learning, computer science, software engineering, quantum and optics engineering:** Raphta offers world-class pioneering computer vision, facial recognition and imaging technology. Their cloud API platform is called Shuri and it is a platform for developers and full stack AI hardware and software solution for cybersecurity, digital identity applications, medical imaging, smart campuses and cities. As a pioneer in facial recognition and edge intelligence they are a trusted and identified market leader by some of the largest Pan African enterprises. Raphta is also engaged in fundamental and applied research in the areas of deep learning and quantum machine learning to help

	organizations solve problems and accelerate their digital transformation in the defense, healthcare and finance industries.

Smart City Initiatives

"There is no clear definition for what constitutes a smart city, but typically we think of it as a city that "gets you" and addresses needs and challenges in an intelligent way, for example, it's a platform that links initiatives by government, giving insight to officials who need to anticipate challenges and take action, while driving things forward in an accessible way." Edwin Diender

Smart city initiatives in South African cities are plans to digitalise all industries and services offered by municipalities. The first step to digitalization has been the provision of free Wifi in public places such as malls, parks and, in some cities, on public transport. The aim is to have a fully digitalized metropolitan and this begins by making sure that everyone is connected. Plans of expansion of these aspirations include e-service platforms for paying utilities, recording and reporting grievances, managing transport and logistics with AI technologies and smart CCTV for security purposes.

Initiative	Category
The City of Ekurhuleni	The City of Ekurhuleni (COE) is an important industrial center in Gauteng, which is South Africa's most economically developed province. Ekurhuleni is described, by its Mayor, as one of the largest air transportation (OR Tambo falls under this metropolitan), rail, and data hub in South Africa.
The Rustenburg Smart City Project	To ensure the city's long term vitality and citizens' living quality, in 2014 the Rustenburg Local Municipality (RLM) began to formulate the Rustenburg Vision 2040, with the goal of becoming "a world-class city where all communities enjoy a high quality of life" — a city that is interconnected, energetic, healthy, green, friendly, secure, smart, prosperous, efficient, and sustainable. The city has partnered with Huawei to achieve this vision. Huawei uses new ICT to build city nervous systems that integrate the Internet of Things (IoT), big data, video cloud technology, Geographic Information Systems (GISs), and converged communications technologies through a digital platform to share fundamental Smart City resources.
Intelligent Transport Society South Africa (ITSSA)	According to their website, the Intelligent Transport Society South Africa "ensures that ITS and related organisations are kept up to date with the technology revolution and allows one to harness the technology and gain the benefit it offers. Its strategic aim is to promote the deployment of ITS solutions to: Make transport operations more efficient; Make using transport systems more people-friendly; Reduce transport-related fatalities and injuries; and Reduce the carbon footprint of the transport sector."
City of Cape Town Smart City Initiatives	These initiatives make use of big data; machine learning; cutting edge solutions to connect every operator in a city, centralise the data for governments and agencies, and power real-time communication and analytics for more efficient, usable networks

City of Johannesburg smart city initiatives	Johannesburg's Integrated Intelligence Operations Centre and 'Smart' CCTVs are some of the city's plans to become a smart city. The city also offers e-services where people can pay their utilities online and lodge their complaints and grievances with the city online.
The City of Tshwane	"The City of Tshwane Metropolitan Municipality continues to strive towards the goals of Tshwane Vision 2055: a city that is liveable, resilient, and inclusive and provides a high quality of life for its citizens. e-Tshwane increases capacity and demonstrates a willingness to deploy ICT for improving knowledge and information in servicing and transforming relations with citizens, businesses, and other arms of government. e-Tshwane is a secure free online service that allows homeowners, companies, property managing agents, and tenants to electronically interact with the City."

Academic Initiatives

Institutions of higher education and learning have undertaken research on different aspects of AI in different industries including health, mining, data science, education and communication. These academic initiatives are filling the gaps in the need for research on AI technologies for use in societies and educating the upcoming workforce on AI systems so that there isn't a deficit of employees in the STEM field.

Initiative	Category
DigiMine - Wits University	**Machine learning:** The digital mine laboratory at Wits is a project where the Chamber of Mines building was converted into a 'mine', complete with a surface, vertical shaft and mock mine with a control room in the basement. The Mock Mine is a one-of-a-kind laboratory with a significant research agenda to transfer surface digital technologies into the underground environment – the enabler for a mine that can (automatically) observe, evaluate and take action. The ultimate objective is to use technology to put distance between mine workers and the typical risks they are exposed to on a daily basis.
CAIR	**Various aspects of AI:** The Centre for Artificial Intelligence Research (CAIR) is a South African national research network that conducts foundational, directed and applied research into various aspects of Artificial Intelligence.
Masakhane	**Natural language processing:** Masakhane is a research effort for machine translation for African languages. This project houses the community, data, code, results and research for building open baseline translation results for African languages. The project's goals are to build and facilitate a community of NLP researchers in Africa, to build helpful tools for applications in African governments, medicine, science and education, to enable language preservation and increase its global visibility and relevance. In terms of natural language processing in Africa, their aim is to build data sets and tools to facilitate NLP research on African languages, and to pose new research problems to enrich the NLP research landscape.
The University of Pretoria	**Different aspects of AI** The Intelligent Systems Group (ISG) specialises in the theory and application of systems that perceive, reason, learn, and act intelligently. The aim of the group is to create real-world intelligent systems applicable in the South African context.

The University of Cape Town	The Robotics and Agents Lab (RAL) at the University of Cape Town is engaged in research on autonomous robots. The aim of the lab is to combine solid mechanical design with AI-based control technologies from computational intelligence, learning, and knowledge representation.
The University of Johannesburg	The Institute for Intelligent Systems (IIS) was established in 2016 within the University to act as a catalyst towards the UJ Strategy for Global Excellence and Stature (GES). The institute will soon offer a Masters in Artificial Intelligence, Masters in Financial Engineering, and a short learning program in Computational Intelligence. IIS also has ongoing research in strategic focus areas aligned to industry 4.0.
Open Africa Innovation Research	Through thematic research on high technology hubs, informal innovation, and indigenous entrepreneurship in Africa, Open AIR is taking steps toward advancing an emerging research agenda on AI for development. With this research, we are tackling questions related to AI and gender equality, AI's future impacts on youth employment, and the inclusion of marginalized communities in African AI policies.

NGOs

AI technologies are notorious for their harms, especially on gender minorities (see data harms table). Industry experts contend that these flaws in AI are because the intention behind the AI technologies is flawed. However, there has been AI for good, listed below, which has been developed to assist the victims of gender-based violence.

Initiative	Category
rAInbow	**Chatbot; machine learning:** Chatbot that discusses relationships, abuse in relationships, healthy and unhealthy relationships, and offers information on resources that can help an individual in need of assistance.