

Christiaan Nel

Centurion, Gauteng, 0157 • christiaan.nel@mcnel.me
Code B Driving License • English and Afrikaans

Career Profile

I'm an experienced Full Stack Developer and System Administrator with over 16 years of expertise in implementing Information Technology solutions for small and large enterprises across various industries, including ICT services, Parking, CMS, Crypto, marketing, education, strategic design, retail, agriculture, and FMCG. Adept in managing the system development lifecycle and implementing new software solutions with both small and large teams.

I have strong competencies in Cloud Development (AWS Architecture and Development), Agile methodology, SQL and NoSQL database administration, Web Development, Full stack development, Test-driven development, and Linux server administration. I hold an MTh from University of Pretoria and have completed numerous software development, database administration, and system administration short courses and immersive programs.

Proficient in AWS, React Native, Angular, NodeJS, E2E (Cypress), Gitlab, Offline LLMs, Serverless, Lambda, MySQL/MariaDB, PostgreSQL, MongoDB (NoSQL), Firebase (Cloud Firestore), HTML5, CSS3, JavaScript, Typescript, JSON, Ajax, REST, SOAP, PHP, ElectronJS, ExpressJS, WordPress, C/C++, Delphi, Apache, Nginx, Ubuntu (Linux OS), Mongoose OS, Windows 10, Gulp, Git, Bitbucket, Github, Trello, Jira, Jasper Reports, Jasper Server, Zabbix, UX, UI, ML (TensorFlow), Microsoft Office, Internet of Things (IoT), ESP8266, Google Cloud Platform, Google IoT, ReactJS, Microsoft DevOps.

Career Highlights

- Solutions Architected new Event-Driven-Architecture for a major Ticketless Parking platform to allow for over 150 parking events per second
- Dev Lead, Designed and Architected a Community Management System on AWS. This includes the development of an online portal, hybrid mobile apps, and managing over 50,000 live monthly-active-users on the platform.
- Seasoned MySQL/MariaDB/PostgreSQL developer and administrator with over 15 years of experience.

- Assisted a major IT company in Africa with revenue recovery and employee health by providing management and team leaders with custom toolsets for managing employee leave, overtime, task and time utilization.
- Designed and developed a multitude of software solutions, feature-rich client web-applications and new marketable products for companies following agile values and practices and using a wide range of development tools, frameworks and languages.
- Coached, trained and mentored co-workers and contributed to the overall financial and emotional health of the companies I worked for.
- Created Kuberkon, a startup that provides cloud and software development consulting, alongside creation of proof-of-concept systems build on modern A.I. models.

Professional Experience

admyt. Cape Town.

12/2024 to Present

Senior Engineer and Solutions Architect (12/2024 to Present)

- Spear-headed the design and development of a modern React Native application for iOS and Android, bringing a much-needed upgrade to a 6+ year old react web app.
- Solution Architected the new Event-Driven-Architecture allowing us to scale from 42 million monthly parking events to over 200 million monthly parking events, at minimum, with capacity to scale to over 150 events per second.
- Through evaluation, re-configuring, and region-management of our AWS environment, removed expensive bottlenecks and high operating costs caused by legacy CPU and Storage configuration.
- Redesigned and implemented a robust Barcode and QRCode scanning feature with new UI/UX and better permission management, dramatically improving the regular user experience of our application.
- Implemented Zabbix which enabled us to monitor all our sites across South Africa and Poland, enabling real-time monitoring of the state of our cameras, hardware, and software running in our environment.

Glovent Solutions. Centurion, Pretoria

04/2023 to 12/2024

Senior Software Developer (04/2023 to 12/2024)

- Provided a major revenue stream through the creation of a robust and fully featured ad/banner service that allowed for communities and admins to publish ads and banners to app-users.

- Created a robust, scalable, and tamper-proof online meeting/voting system with live updates, to help, amongst others, AGMs, SGMs, trustee meetings, and board meetings; utilizing websockets and an immutable quantum-ledger-database.
- Redesigned and implemented the SOS/Panic feature with new UI/UX, real-time status feedback, and a new subscription service allowing for integration with national panic and armed response services.
- Performed major updates to the frontend, by updating angular, ionic, capacitor and AWS amplify through multiple major versions.
- Performed the migration of dev-ops between bitbucket and AWS, including the setup of all CI/CD pipelines
- Through evaluation and re-architecting, reduced month-to-month costs of AWS by over 30%.
- By restructuring the underlying architecture of the database, all historical bottlenecks were removed from PostgreSQL, enabling it to run optimally in a serverless environment.
- Managing a live user count of over 50,000 monthly-active-users on the platform.
- Future-proofed the portal offerings by creating scalable, and testable, agency, community, root and sandbox portals with shared code in an Nx/Nrwl angular mono-repo.

Reason for leaving: Strategic leadership transition and shift in organizational priorities.

Kuberkon (Pty) Ltd. Centurion, Pretoria

02/2023 to Present

Managing Director and Tech Lead (02/2023 to Present)

- Created a new cloud and software development consulting company.
- Assisted various companies in cost-savings and project rescue.
- Developed multiple proof-of-concept systems related to Automated Property Rentals, Artificial Intelligence in the legal space, and enhanced reporting.
- Revived and overhauled a major auto-parts-insurance company's parts-acquisition system that was running on a 12 year old PHP system.

Luno SA (Pty) Ltd. Johannesburg

04/2022 to 03/2023

Senior Web (Angular) Developer (04/2022 to Present)

- Led the team with a major refactor of critical user flows within the web app, resulting in better maintainable code and more stable user experience.
- Maintained the codebase related to the onboarding of new customers from signup through to kyc (know-your-customer), through to first buy of crypto either via deposit or direct card payments.
- Created an internal tool for visualizing user onboarding flows on the backend, and for rendering screens received from the backend.
- Added the Stripe payment facility to the frontend to allow users to buy crypto with a payment card.

- Championed End-to-end testing, including the creation of tests and the creation and updating of new documentation surrounding our e2e practices.
- Assisted with the performance of the team through mentoring and being stand-in for the Agile Delivery Lead during certain scrum ceremonies, while also ensuring that the web competency's backlog is kept well groomed.
- Assisted the Product Manager with the creation and upkeep of the team's technical roadmap.
- Assisted and developed an in-house tool for editing and viewing live dynamic screen data and debugging of customer journeys, used by both frontend and backend competencies.

Reason for leaving: Mass retrenchments at Luno.

Glovent Solutions. Centurion, Pretoria

04/2020 to 03/2022

Senior Full Stack (AWS/Angular) Developer (04/2020 to 03/2022)

- Designed and architected the entire GloCMS Community Management System, which primarily includes AWS (Amazon Web Services), Angular and Ionic Hybrid apps (Cordova). This project included secure visitor access management, access control, community and home-owner association records, account and levy management, communication with flexible channels and email/message templating.
- Pioneered the concept of a *shadow record* in the CMS industry, which allows for a user to have a profile, but each *tenant* in the multi-tenant environment will have their own version of a user, or a shadow user, as was shared with them or through self-collection. When a user is onboarded or via different rules, these shadow records will be kept in-sync or remain undisturbed depending on given consent, allowing up-to-date access and up-to-date record keeping.
- Ensured system stability and go-live within 5 months from project initiation.
- Ensured optimal team performance as dev-lead, which included mentoring the team and also setting up the entire DevOps methodology and tools, while coaching the team in Agile methodologies and practices. This also included the role of scrum master.
- Managing a live user count of over 24,000 users on the platform, while enabling communication to over 80,000 users in over 110 communities, all utilizing a combination of AWS Serverless Architecture and PostgreSQL. This includes services like DynamoDB, Eventbridge, Lambda (NodeJS), EC2, Cognito, S3, IoTCore, Textract, SES, SNS and many more.
- Assisted and led development of the next phase of the platform with a Proof-of-concept where the system needed to scale up to include the inhabitants of an entire local municipality.

Reason for leaving: Approached by Luno with new growth opportunities.

SELF-EMPLOYED. Centurion, Pretoria

11/2019 to 04/2020

Volunteer Software Developer (10/2019 to 04/2020)

- Improved the turnaround time of FMCG financial reporting from 8 days to 10 minutes through the design and implementation ElectronJS Desktop applications that processes large SAP data dumps into smaller reports.
- Performed financial forecasting for a FMCG company and developed the automation of this forecasting through the design and implementation of ElectronJS Desktop applications and Excel templates that analysis SAP data dumps.
- Performed Volume, Price and Mix analysis for a FMCG company and automated this analysis through the design and implementation of ElectronJS Desktop applications and Excel templates that analysis SAP data dumps.
- Improved the turnaround time of FMCG Volume, Price and Mix analysis from 14 days to 15 minutes do through automation.
- Designed and implemented rich desktop applications using ElectronJS (Chromium, NodeJS, HTML5/CSS3/JavaScript)
- Designed and implemented multiple MS Office plugins, including Excel and Powerpoint, based on the Microsoft Office JavaScript plugin API.

Beverage Insights. Bryanston, Johannesburg

07/2016 to 07/2018

Beverage Insights is a small Internet-of-Things company which strives to enable real-time monitoring and maximize profits for beverage companies. My role was to design and implement both hardware and software solutions using Agile values and practices using the latest IoT and Google cloud solutions.

Internet of Things Engineer (07/2016 to 07/2018)

- Focused on delivering quality work and managing my own timelines as well as risks and issues that affect my own work.
- Implemented agile values and principles to deliver working solutions more frequently to clients.
- Created and implemented end-to-end IoT solutions for capturing beverage consumption and keg utilization at various bars and pubs around the country using ESP8266, C++, MySQL, Google Cloud IoT API, Google Cloud App and Compute engines, Google Cloud functions and BigQuery with DataStudio for client reporting.

Reason for leaving: Sabbatical for Master's studies

BIG BRAVE. Bryanston, Johannesburg

01/2015 to 07/2018

BIG Brave is a strategic design firm who assist their clients of any size to create and design meaningful brands, products, services, systems and solutions that are both

innovative and easy to use. My role was to design and implement both hardware and software solutions using Agile values and practices, while assisting and upskilling the junior members of the team.

Senior Software Developer (01/2015 to 07/2018)

- Designed and implemented various REST services and consumed various REST/SOAP services and other public APIs including Paygate, Twillio, Facebook, Twitter, Instagram, Random.org, Loyalty Box, and FlySAA Voyager.
- Created potential marketable services for BIG Brave through the development of new prototype solutions and proof-of-concept products using a wide array of existing or new hardware/software/web technologies.
- Focused on delivering quality work and managing my own timelines as well as risks and issues that affect my own work.
- Regularly assisted a junior developer in the team through mentoring, upskilling and pair programming.
- Ensured the stability, performance and security of a commercial realstate platform through the regular maintenance and administration of the Ubuntu Linux server OS and implementation of load-balancing on the web servers.
- Maintained multiple MySQL and MongoDB databases ensuring regular backups of data, clean-up and reporting of data, and implementing of MongoDB clusters.
- Designed and implemented rich client web applications, platforms and software solutions in AngularJS, PHP, NodeJS, Firebase, MongoDB (NoSQL), MySQL, C++, HTML/CSS/JavaScript and KnockoutJS using Agile methodologies.
- Developed stable and secure Ecommerce using Agile methods and TestDriven Development

Reason for leaving: Sabbatical for Master's studies

BTCSA. Randburg, Johannesburg **06/2016 to 11/2017** The Baptist Theological College of Southern Africa is an African Seminary with a large African footprint who provides training to a multitude of pastors, leaders and lay people. I assisted in their digital innovation and service enhancement by providing a complete overhaul of their website.

Freelance Software Developer (06/2016 to 11/2017)

- Designed and implemented a new website for the client built on a LAMP stack with WordPress, PHP, HTML5, CSS3 and JavaScript.
- Enhanced the offerings and services of a medium sized tertiary education institute by providing an online portal for student payments of study fees and resources.

- Implemented the Snapscan - and Paygate APIs using PHP and JavaScript on the payment portal for efficient and secure payments.
- Enhanced the revenue stream of a medium sized tertiary education institute by suggesting more secure and affordable hosting solutions for the client's website.

RGB Vision. Centurion, Pretoria

10/2014 to 06/2016

RGB Vision was a small multimedia and marketing company who utilized creative technological innovations to provide superior marketing services to various shopping centres and enterprises around Gauteng. My role as a freelance developer enabled them to develop and sell new services to clients.

Freelance Software Developer (10/2014 to 06/2016)

- Provided a payment gateway for a NPO using PHP and JavaScript • Designed and implemented a proof-of-concept Facial Recognition Marketing system for the client implementing MySQL, C++ and the SightCorp Crowdsight API.
- Designed and implemented a large LAMP stack with WordPress and custom PHP plugins for a real-estate company.

Vektron Energy. Fourways, Johannesburg

02/2014 to 05/2014

Vektron Energy was a small electrical engineering and energy solutions company providing energy solutions services for larger companies. My role as a freelance developer was the creation of prototype software solutions.

Contract Software Developer (02/2014 to 05/2014)

- Enabled the client to aggregate raw energy/electrical data into working models.
- Implemented and maintained various MySQL server clusters for raw data capture, data-manipulation and reporting.
- Created a secure PHP web portal for reports to be generated from the MySQL databases.

BCX. Midrand, Johannesburg

02/2008 to 02/2014

BCX is a large enterprise and leading African ICT solutions and service provider. My role was to provide BCX's clients with ongoing IT services, ensuring optimal uptime for these clients, and to support the other engineering teams while enhancing their processes.

System Engineer (03/2010 to 02/2014)

- Assisted in revenue recovery, time efficiency, overtime management and support personnel availability through the design and implementation of a Management Information system which assisted senior managers and team leaders managing employee leave, task management, calendars and overtime scheduling/billing, built utilizing Delphi XE2 and MySQL.

- Ensured the optimal performance and high availability of various MySQL servers among the data centres through proper and regular maintenance and implementation of replication solutions.
- Extended the service portfolio of the BCX data centre services by consulting as a MySQL database administrator for Africa Bank.
- Further extended the service portfolio of the BCX data centre services by providing automated infrastructure reports through the implementation of Jasper Reporting Server querying against the Zabbix Infrastructure monitoring tool's MySQL database.
- Ensured the optimal performance and uptime of the ASG-Zena workload scheduler and automation through regular maintenance, testing and updates.
- Removed crippling performance bottlenecks for a large retail company on ASG-Zena by liaising with the relevant vendors and IT personnel, changing the processes for vendor implementation of the ASG-Zena scheduler, and through the implementation and updating of new operations and technical support documentation to reflect these new processes.
- Mentored and upskilled junior system engineers and junior operators.
- Assisted in the enhancement of the overall emotional health of the company by serving as a representative on the Employee Communications Forum.
- Winner of the 2010 X-Calibre award in recognition of work performance, team collaboration, and assisting with the overall health of the data centre services team.

Reason for leaving: Sabbatical for Bachelor's studies

Junior System Engineer (10/2009 to 02/2010)

- Ensured the quick installation and configuration of hardware and creation of processes and documentation for operations and operations analysts when taking over a new client due to the implementation of proper due diligence.
- Provided high system and infrastructure availability for a large retail company and a large agricultural company through regular maintenance and administration of IBM AIX and Sun Solaris (Unix) operating systems, and IBM P595 servers.
- Assisted in revenue recovery and overtime management through the design and implementation of a Management Information system which assisted senior managers and team leaders managing employee leave and overtime scheduling/billing, built utilizing Delphi XE2 and MySQL.

Junior Operator (02/2008 to 09/2009)

- Ensured optimal availability of client infrastructure through the regular maintenance and monitoring of client systems (IBM AIX), hardware (IBM

P595, IBM Tape libraries), and applications (ASG-Zena workload scheduler and automation).

- Increased the operations team efficiency for a large retail company by suggesting enhancements to daily processes and amending training and technical manuals accordingly.
- Ensured regular system maintenance and preventative measures for critical issues through pro-active and clear communication with 2nd and 3rd line technical personnel.

Education

UNIVERSITY OF PRETORIA, Pretoria, 2018-2020

M.Th, Master of Theology, Early African Christian History

BAPTIST THEOLOGICAL COLLEGE OF SA, Johannesburg, 2017

B.Th, Bachelor of Theology

BAPTIST THEOLOGICAL COLLEGE OF SA, Johannesburg, 2013-2016

Dip.Th, Diploma of Theology

HOËRSKOOL ELDORAIN, Pretoria, 2006

Matric, Afrikaans, English, Mathematics, Computer Studies, Physical Science, Geography, Additional Maths

Courses

Test Driven Development (TDD) – Beginners Essentials, Udemy, 2022

Angular Testing Masterclass, Udemy, 2022

React Native – The Practical Guide, Udemy, 2021

Agile Fundamentals: Including Scrum and Kanban, Udemy, 2020

AWS Certified Developer - Associate 2020, Udemy, 2020

Object Oriented PHP & TTD with PHPUnit from Scratch, Udemy, 2020

Machine Learning with JavaScript, Udemy, 2020

Beginning C++ Programming – From Beginner to Beyond, Udemy, 2020

Angular – The Complete Guide, Udemy, 2017

Angular and NodeJS – The MEAN Stack Guide, Udemy, 2017

MySQL for Database Administrators, Oracle University, 2013

SUSE CLP 11Academy, Suse Academy, 2013 **z/VM Installing,**

Configuring, and Servicing z/VM, ICT Worx, 2013 **z/VM**

Introduction and concepts, ICT Worx, 2013

References

For list of references, please request a complete copy of the CV from my website at <https://mcnel.me> or email me at christiaan.nel@mcnel.me.