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Profile

Extremely capable and passionate technical lead with an extensive background delivering sophisticated cloud and enterprise software solutions across the globe. Particular expertise in the collaborative development of highly-scalable, data-intensive distributed systems. Leads with an agile, data-driven approach with a relentless emphasis on continuous improvement. Possesses a particular interest towards bold, innovative, data-intensive, R&D focused companies.

I have accumulated considerable experience across a diverse range of business stages and domains through my engineering roles, including startups and large enterprise in behavioural analytics, data security, mining, aerospace and fleet management. I have seamlessly extended my vertical engineering skillset into new roles, stemming from an embedded systems and native application background through to architecting and leading the development and deployment of cloud-based, globally distributed, micro-service platforms. My natural enthusiasm for technology and business and my thirst for growth, knowledge, growth and new relationships, enables me to confidently approach and succeed across novel environments.

I always strive to better deliver products and services that customers and clients love. In that pursuit my responsibilities and interests have grown beyond pure development towards architecture, team leadership and customer engagement. I have demonstrated a clear talent in driving my team to develop innovative, world class products together.

I simply and genuinely love software and applying it to improve our world.

Category	Application
Tech lead, Software Engineer	Over 20 years experience in a diverse range of domains and software development categories.
Domains	Retail analytics, marketing tech, IoT, mining, data security, areonautical and fleet management.
Practices	Agile, R&D, Startup, Cloud Native, Functional Programming, TDD, Distributed Systems, Distributed Teams.
Languages	Rust, Scala, C++, Typescript, Java, C#, Python, Clojure, Shell, Javascript, Ruby
Data	Mysql, Postgres, MongoDB, Kafka, Elasticsearch, Clickhouse, Redis
Frameworks	Axum, Spring, Micronaut, http4s, Angular, React.
Platforms	AWS, Kubernetes, Google Cloud, Digital Ocean
Development OS	Linux, MacOS, Windows
Preferred Environment	Product driven. Visionary. Collaborative. Creative. Product Intelligence. Performant. Data Intensive.
Hobbies	Reading, powerlifting, computer graphics, hobbyist app development.

Technical Solutions Lead, Beonic (Sydney) - 2020 - Present

Responsibilities

AI
Analytics
Airports
Distributed Teams

Architecture
AWS
Kubernetes
Scalability

Agile
Leadership
CI/CD
Cloud-Native
DevX

FP
Scala
Rust
Angular
Spring
Java
Python
Linux

Kafka
MySQL
MongoDB
Elasticsearch
Redis
Clickhouse

JIRA
Zendesk
Bitbucket
Jenkins

As a technical solutions lead at Beonic, reporting to the Director of Technology, I am responsible for leading the technical direction of the Beonic Platformand its array of satellite services. My activities span the whole development cycle, from collaborating with internal/ external stakeholders, synthesising system specifications, architecting and designing systems and leading their continued development.

As a solutions lead my role extends beyond development into orchestrating solutions to internal and external customer needs by optimally utilising our available technical resources and personnel. As a tech leader, I constantly strive to guide our team in new and improved practices and technology and nurture the development of our globally distributed engineers.

Achievements

The engineering function of Beonic thrives despite significant challenges shifting towards increasingly geo-distributed, remote-first development teams and a strategic shift to focus on the airport space. I am proud of the technical solutions I have led, such as enhancing our engagement products with increasingly AI driven features, modernising our platform architecture, globally standardising and automating our delivery processes and instituting Rust for future cloud services.

I am similarly proud of my initiatives to cement an amazing developer culture such as evangelising the work of our teams, founding our tech and paper clubs and improving our professional development paths .

Senior Software Engineer, Beonic (Sydney) — 2014-2020

Responsibilities

As a lead engineer at Beonic reporting to the CTO, I was responsible for design and development of the Beonic Platform, a behavioural analytics and engagement platform. I was initially responsible for extending and scaling the existing applications before taking a hands-on role in architecting and developing new systems.

During my tenure, we evolved IO from a simple AWS Elastic Beanstalk monolith into a suite of highly-performant cloud-native, Kafka connected, Kubernetes services. The core services are mostly written in Scala using the Spring framework against MySQL, MongoDB and Elasticsearch for OLTP, OLAP and search respectively. Additional satellite services were built in a diverse mix of technologies including HTTP4S, Kafka Streams, Akka and C++.

I have continuously strived to improve developer productivity and culture by constantly reviewing our practices and technologies, evangelising and instituting better alternatives across teams and fostering better communications to breakdown silos between our partner teams in data-science, operations and product management.

Achievements

I have played a critical role in evolving Beonic's products and services to scale with the needs of the business and they have done so admirably. Beonic has grown from serving a single customer to hundreds of customers globally across multiple verticals such as retail, cities and now airports. The platform we built efficiently ingests and enriches billions of data points daily, serving real-time, consumer facing, behavioural analytics and real-time engagement with end-users across five regions.

I am equally proud of being part of and helping to foster a close, collaborative, selfless and driven team that always excelled with a capacity beyond its numbers.

Senior Software Engineer (SSE), Covata (Sydney) — 2012-2014

Responsibilities

Startup
Data Security

Agile
CI/CD
REST
API Design

C#
F#
Obj-C
C++

Windows
iOS
On-Prem
Postgres

Git
Bitbucket
Jenkins
JIRA
Confluence

I was recruited as a SSE into a startup of 15+ engineers, reporting to the Director of Engineering. The company's products targeted government and enterprise customers in the information security space. The core offering was the Covata Platform, a cloud-native SaaS providing encryption, data storage and collaboration services. A suite of supporting SDK and applications for secure filesystem synchronisation and collaboration were also developed.

I was a lead developer in the applications team building Covata SecureEmail and SafeShare for Windows. I was also a developer on SafeShare for iOS and the .NET, iOS and C++ SDK. We practiced agile development practices, including pair-programming, version control, code-reviews, CI, layered testing and extensive automation for continuous delivery. The technology stack eagerly utilised modern tools, including functional and reactive programming, .NET 4.5, iOS 7 and c++11.

SecureEmail was a secure email platform integrated within Microsoft Outlook using C#. The SafeShare application provided secure data storage, sharing and collaboration facilities through separate apps for the web, iOS and Windows. My team developed the Windows app, it's native file-system synchronisation and a native SDK for external developers. The app was a mixed C# and F# app and used C++ ATL for Windows shell extensions. Following its successful delivery I helped build the objective-C iOS app.

Achievements

I'm very proud of everything we accomplished building the suite of apps spearheading Covata's product line. The applications received high praise from customers and press alike. The startup environment at Covata was intense requiring me to swiftly master a diverse mix of technologies. A significant technical challenge was creating a robust, responsive and scalable filesystem synchronisation system that still preserved the platform's security model. Designing and maintaining public SDK and liaising with Covata's partners has also been a rewarding experience.

Senior Software Engineer (SSE), Leica Geosystems (Brisbane) — 2010-2012

Responsibilities

Enterprise
Embedded
Mining

Agile
R&D
OOP
CI

C++
Ruby
Obj-C
Linux
OSX

Git
SVN
JIRA
TeamCity
SQLite
PostgreSQL

Emacs
VIM

I was recruited into a team split between Brisbane and Tucson, USA on the Jigsaw and High-Precision (HP) product range. The Jigsaw Fleet Management System was a tier-1, enterprise suite of on/off-board systems for managing, optimising and reporting of equipment operations in open and underground mines. The HP product augmented Jigsaw with high-precision functions for shovel, drill and dozer equipment.

The HP software was an C++, embedded Linux application with a native frontend. I was responsible for continued enhancement of its sensor integrations and algorithmic capabilities. The project used agile development, continuous integration and modern C++0x, Boost and ACE. Unit and acceptance tests were written in CppUnit, GoogleTest and Python.

The Jigsaw system was a Linux based, distributed platform deployed to end-user devices and backend systems alike. It was written in Obj-C (server) and Ruby (front-end). I was primarily responsible for designing and implementing new on-board features.

My final project at Leica was in a newly assembled team, architecting and designing a new onboard product for Dragline operators. The initial implementation was built in modern C++ using Boost extensively.

Achievements

Compared to earlier roles, I believe my greatest accomplishment was flourishing in the extremely challenging and diverse technical and business landscape of a tier-1 enterprise solution provider. Secondly, I gained a wealth of domain knowledge in mining systems and operations.

Software Engineer, BAE Systems Australia (Melbourne) — 2008-2010

Responsibilities

I was employed in a full-time software engineering role within the Autonomous Mission Systems (AMS) division. The team consisted of 40+ cross-discipline engineers working on flight and ground control systems for the HERTI and MANTIS autonomous aerial vehicles (UAV). I was a developer on the flight-control and system-test software on both projects.

Formal requirements elicitation and analysis was performed using DOORS and Rhapsody UML. The real-time onboard systems were written in C++ on Green Hills Integrity OS for the flight computers and embedded Linux for the System Test Unit (STU). The security-sensitive, safety critical nature of the projects ensured all work was carried out according to the DO-178B certification and MIL-STD-498 standard.

Defence
Safety Critical
Security Clearance

R&D
OOP
UML

C++, Boost, Python

Linux, real-time OS

CVS, Synergy

DOORS, Rhapsody UML

Eclipse, VIM

Achievements

I'm very pleased with all I accomplished working at BAE and the enriching experience I gained engineering safety critical systems and prospering in a rigorous, formally driven sector. However, I'm particularly thrilled knowing the innovations I developed in the STU precipitated a continuing culture shift towards more automated systems and processes.

Software Engineer, Industrea (Brisbane) — 2006-2008

Full-time software developer working on both on-board and off-board systems targeted to enterprise mining customers. I worked across two major products at Industrea - first a GPS asset tracking and driver monitoring system and second, as the lead developer of a new collision avoidance system (CAS).

Agile, Embedded

OOP, UML
C#, C++
Visual Studio, Eclipse
SVN
Nunit

Being my first post graduate role, the knowledge I gained in the domain of mining and embedded systems was the highlight of my time at Industrea. The CAS system became an important product for the company.

Education
University of Queensland — Bachelor of Engineering, Software (Hons), 2005

References
References available upon request.