Alexander Krum

Engineering Manager / Hands-On

Chemnitzer Straße 43
Marburg 35039
Germany
(currently leaving in Sydney, relocating to Germany in June 2024)

Phone: +61422767233
Email: me@alexanderkrum.com
LinkedIn: https://www.linkedin.com/in/alexander-krum-75126b42/

ABOUT ME

As an experienced consultant and technical lead, I specialize in crafting effective, innovative solutions tailored to specific needs. Leveraging a broad expertise in various technologies, helps me to successfully deliver custom implementations. I offer strategic guidance to help clients form clear product roadmaps while balancing fast market entry, scalability, and cost-efficiency. My approach draws from a rich background in project successes and disaster management, fostering a culture of excellence in code quality and continuous integration through extensive process automation.

I adapt swiftly to new work environments and excel in building relationships, making me a natural team player. I prioritize communication and collaboration, and as a team leader, I have embedded innovative practices like pair programming and mob programming into our workflow.

Certified as a Scrum Master and Product Owner, I have deep expertise in incremental product development, ensuring projects are completed on schedule. My commitment to deeply understanding client business models allows me to deliver significant value. My dedication to lifelong learning is demonstrated through ongoing education and constant experimentation with the latest technologies in my project developments and proof-of-concepts

Certificates
Credly Link

Cloud Experience
AWS, Azure

Programming Languages
Typescript, Java, C#, Python

Backend-Frameworks Expertise
NestJs, Spring Boot, .Net Core, FastApi

Frontend-Frameworks Expertise
NextJs, Vite, React Native, Gatsby, Astro

Architectures Expertise
Serverless, Microservices, Modular Monoliths, Micro Frontends

Test-Frameworks Expertise
Jest, Playwright, Cypress, Xunit(C#, Java), Cucumber

Best-Practice Practitioner
OOP, TDD, SOLID, GRASP, GOF Patterns

Expertise in der IAC
AWS CDK, Pulimi

Expertise in DevOps
GitHub Actions, Github Admin, Azure DevOps, Atlassian Bamboo, Gitlab

RECENT EXPERIENCE

PALO-IT, Sydney — *Engineering Manager*
(hands-on)

Nov 2022 - PRESENT

Engineering Manager at Palo IT, a global consultancy specializing in Digital Products, DevOps, and Digital Transformation. Responsible for designing, developing, and leading multiple projects. Actively involved in the Growth Team, exploring cutting-edge technologies like LLM, and responsible for project effort estimation, resource allocation, and building Proof of Concepts (POCs) and Minimum Viable Products (MVPs).

Roles and Responsibilities

- Design and plan robust solutions tailored to client needs.
- Select optimal frameworks and infrastructure for diverse client projects.
- Develop versatile, cloud-based solutions with a client-agnostic approach.
- Serve as Scrum Master, guiding agile project management practices.
- Engage actively with clients, ensuring seamless communication and understanding of requirements.
- Create innovative Proof of Concepts (POCs) utilizing cutting-edge technologies.

FOXTEL AU, Sydney — *Principal Engineer*

May 2022 - Aug 2022

- Led the refactoring of legacy FOXTEL infrastructure, enhancing system efficiency and performance.
- Directed two remote contracting teams, ensuring project alignment and effective collaboration.
- Successfully rewrote and decomposed monolithic systems (Mulesoft) into streamlined Spring Boot applications.
- Developed tools for FOXTEL operators, simplifying workflows and increasing operational efficiency.

PALO-IT, Sydney — *Tech Lead*

May 2019 - May 2022

Roles and Responsibilities

- Developed client-agnostic solutions leveraging cloud-based technologies, ensuring flexibility and scalability.
- Established CI/CD pipelines to enhance the development experience

and maintain high-quality standards.

- Led and coordinated a team of up to 7 developers, ensuring project efficiency and team synergy.
- Mentored junior and mid-level engineers in software quality and architectural best practices.
- Acted as Scrum Master, facilitating agile methodologies for optimal project management.
- Engaged directly with clients to understand needs and ensure project alignment with expectations.

PALO-IT, Sydney — *Senior Software Developer*

November 2018 - May 2019

Roles and Responsibilities

- Developing client agnostic solutions using cloud based technologies.
- Setting up CI/CD pipelines for high quality development experience.
- Scrum master

PALO-IT, Sydney — *Software Developer*

February 2018 - November 2018

Roles and Responsibilities

- Developing client agnostic solutions using cloud based technologies.
- Setting up CI/CD pipelines for high quality development experience.

Kartel Digital, Sydney — *Software Developer*

September 2017 - January 2018

Roles and Responsibilities

- .NET Development
- Umbraco CMS Development
- Azure Infrastructure
- E-Commerce Applications Development

Tigerspike, Sydney — *Software Developer*

August 2016 - August 2017

Roles and Responsibilities

- .NET Development
- Java Development

Tigerspike, Sydney — *QA Engineer (student part time)*

August 2015 - Juli 2016

Roles and Responsibilities

- Test planning
- Manual Testing
- Automated testing

Johanness Huebner, Giessen — C Developer

February 2015 - November 2016

Roles and Responsibilities

- Firmware developer
- Technical Testbench Development

RECENT PROJECTS (past 3 years, from earliest to latest)

CommonWealth Bank of Australia — Senior Consultant
2024 (current)

[AppStore](#) (New Flight Booking Release in June)

Building an integration with the flight and hotel booking portal integrated into the CBA retail app is my current project focus. I am primarily dedicated to the backend aspect of this integration, constructing APIs in C# hosted as ECS Fargate on AWS. The challenge lies in creating a highly secure and scalable solution capable of handling a large volume of requests. Additionally, I am integrating with a total of 7 other supporting services, ensuring rapid response times. The implementation involves utilizing Kafka for event streaming and Aurora (PostgreSQL) for data storage. To maintain quality standards, I employ Team City for CI/CD, along with Snyk, GitHub Actions, and Testcontainers. The application is being developed using Clean Architecture and following Test-Driven Development (TDD) principles.

WhatTruck Botany Access — Tech Lead
2023-2024 (4 months)

[AppStore](#)

As the Tech Lead at WhatTruck Botany Access, I directed the creation of a digital platform that bridges construction equipment owners with truck owners for job opportunities. Our client, Botany Access, Sydney's top scissor lift provider, needed a rapid, market-responsive solution. I developed a serverless, AWS-based solution, using TypeScript, Expo app, and Vite React SPA, all integrated within AWS's serverless services framework. This app simplifies job matching and management for heavy machinery, with features like truck suitability auto-detection, driver license auto-validation, and automated payment processing post-delivery. This serverless architecture ensured scalability and efficiency, revolutionizing logistics in the construction industry.

CETA Black Dog Institute — Tech Lead
2023 (5 months)

[Weblink](#) (closed beta testing right now)

At CETA Black Dog Institute, serving as the Tech Lead, I successfully led the development of a versatile app system designed for rapid reuse across multiple projects. The Black Dog Institute, a non-profit organization dedicated to research, prevention, and treatment of mental health disorders, required a foundational system to expedite project deployment. My approach involved designing and developing a lightweight, efficient solution using Next.js, Sanity.io, and various AWS Services. This system was tailored to allow content modifications exclusively through the Sanity.io CMS, ensuring ease of use and flexibility. One of the standout features of this solution was its deployment capability, where projects could be launched swiftly and efficiently using the AWS Cloud Development Kit (CDK), significantly reducing the time from conception to implementation. This initiative not only streamlined the Institute's project development process but also aligned with their mission of addressing mental health challenges through innovative and accessible technological solutions.

Foxtel Marvel (Rewrite) — Principal Engineer
2022 (5 months)

My primary role involved the strategic analysis and redevelopment of monolithic systems (Mulesoft) into efficient, microservices-based architectures using Spring Boot. This process entailed decoupling dependencies through the implementation of Kafka messaging, ensuring streamlined communication between services. I spearheaded workshops focused on decomposing monoliths, utilizing the event storming technique to facilitate these transformations effectively. A key aspect of my responsibility was constructing end-to-end tests using WireMock, which played a crucial role in maintaining the robustness and reliability of our services. For deploying these microservices, I utilized Helm charts and ArgoCD, which allowed for agile and consistent deployment processes. Additionally, I was involved in designing intricate workflows using Netflix Conductor and Orkes, enhancing the overall efficiency and scalability of our systems.

HSBC Retail App — *Tech Lead for HSBC Retail App*
2021–2022 (8 months)

[AppStore](#)
Led a team of 7 developers to enhance the HSBC Retail Banking app as per client requirements. Responsible for implementing business logic in the backend using Spring Boot and REST APIs. Managed the transition of legacy code from Mulesoft to Spring Boot. Focused on solving complex business problems in globally shared repositories, with a significant emphasis on understanding intricate business rules and handling legacy

code.

CBA Continuous Delivery Team— *Senior Software Developer*
2021 (8 months)

In the Continuous Delivery Team at CBA, responsible for creating solutions for resource provisioning across the organization. Tasked with developing new provisioning workflows for various teams, utilizing the Atomist framework. This role involved gaining in-depth knowledge of services like Octopus Deploy, Jenkins, GitHub, and TeamCity to effectively create workflows. Developed these workflows using TypeScript, leveraging the Atomist API.

Parking@HDB— T*ech Lead*
2019 (8 months)

AppStore

Tasked by the Parking and Housing Development Board of Singapore to create a native application interfacing with their new gantry-less parking system. Led a 7-member development team to build a scalable backend for the application, capable of handling a high volume of requests. Developed the backend in TypeScript, utilizing AWS services such as Lambda, DynamoDB, and Cognito. Additionally, provided support in Android and iOS development.

EDUCATION

UNSW, Sydney — *Master of Information Technologies*
2015 - 2016
Machine Learning Stream.

THM, Giessen (Germany) — *Bachelor of Science*
2015 - 2018
Information Technology Stream. High Distinction.

THM, Giessen (Germany) — *Bachelor of Science*
2011 - 2015
Embedded Systems Stream. High Distinction.

Fraport AG, Frankfurt (Germany) - *Mechatronics Technician*
2001 - 2005

THM University, Giessen — Lecturer

September 2014 - September 2015

Roles and Responsibilities

- Advanced Introduction to Programmable Logic Controllers
- Introduction to CodeSys PLC Programming
- Introduction to CodeSys Interface Programming
- Final Examinations

PUBLICATIONS

- Contribution to a research paper as part of Bachelor Thesis – Nepteron Processor for Real-Time Computation of Conductance-Based Neuronal Networks
- DDD Sydney 2019 Talk –Data Processing with Transducer in JavaScript