# Ayush Mukherjee

## Software Developer

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## Professional Summary

Dedicated Software Developer with extensive experience in full-stack development and DevOps, specializing in cloud platforms (Kubernetes, Azure), CI/CD automation, and modern web applications. Proven ability to enhance system efficiency and scalability, with a focus on containerization, infrastructure-as-code, and microservices. Passionate about advancing cloud solutions and contributing innovative ideas in collaborative team settings.

## Work History

**FULLSTACK WITH DEVOPS INTERN**, 09/2024 - 02/2025
**BOSCH THERMOTECHNIK** – Wernau, Germany

- Developed a **Load Profile Tool** for boiler analysis, **enhancing data processing speed by 40%**.
- Built a **Vue.js + Go web application** with **SSO authentication**, reducing login failures by **25%**.
- **Containerized frontend & backend using Docker**, minimizing deployment errors by **50%**.
- **Automated CI/CD pipelines** with **Azure DevOps & GitHub Actions**, cutting manual deployment effort by **30%**.
- **Deployed the application on Azure Kubernetes Service (AKS) using Terraform**, ensuring **99.8% uptime**.

**APPLICATIONS ENGINEER WORKING STUDENT**, 08/2023 - 08/2024
**BOSCH REXROTH AG** – Fellbach, Germany

- **Deployed IoT automation solutions** on **Bosch Rexroth ctrlX Core Controllers**, improving **system efficiency by 35%**.
- **Developed real-time client-centric applications** using **Node-RED, Angular, Flask and Kafka** enhancing **data processing speed and system responsiveness**.
- **Authored technical documentation & tutorials** in the **Rexroth Community**, increasing **user adoption by 20%**.

**SOFTWARE DEVELOPMENT INTERN**, 05/2022 - 08/2023
**BOSCH ENGINEERING GMBH** – Abstatt, Germany

- Enhanced UI/UX components with **Svelte**, reducing page load time by **50%**.
- Optimized **Node.js & MongoDB** backend services, decreasing API response time by **30%**.
- Integrated **REST APIs**, ensuring seamless data exchange and system interoperability.
- Formulated **E2E UI tests** with **Cypress & Mocha**, improving test coverage to **85%**.
- Contributed to **microservices architecture**, improving modularity and maintainability.

**ASSOCIATE SOFTWARE ENGINEER**, 11/2020 - 02/2022
**INDUS NET TECHNOLOGIES** – Kolkata, India

- Architected **3 full-scale web applications** using **React, Next.js, and Angular**, improving user engagement by **40%**.
- Integrated **REST & GraphQL APIs**, reducing API latency by **25%**.
- Integrated **service workers & caching**, boosting PWA performance by **60%**.
- Led Agile sprints using **Jira & GitHub**, reducing bug resolution time by **35%**.

## Skills

- **Cloud & DevOps:** Kubernetes, Docker, Terraform, Azure, Kafka, Prometheus, Grafana, CI/CD (GitHub Actions, Azure DevOps), Infrastructure-as-Code (IaC), RBAC, Secrets Management, Jira
- **Backend:** Go (Golang), Node.js, Express.js, Python (Flask), RESTful APIs, GraphQL, Concurrency (Goroutines)
- **Databases:** PostgreSQL, MongoDB, MySQL, Redis, NoSQL
- **Frontend:** React.js, TypeScript, Vue.js, Angular
- **Testing & Automation:** Cypress, Jest, Unit Testing, End-to-End Testing

## Projects

**Schwarz IT Hackathon - Reducing Carbon Footprint via Inventory Optimization (09/2024)**
**(**https://github.com/tyagiprnv/schwarz-it-hackfestival)

- Designed a smart inventory management system using historical sales data to optimize stock levels.
- Built a real-time bidding system to sell near-expiry food items at reduced costs, enhancing sustainability.
- Introduced Green Points, redeemable for tree planting in German forest reserves, promoting eco-friendly incentives.
- Utilized LLMs for targeted marketing and personalized advertisements, improving user engagement.

**Fraunhofer Smart OWL Hackathon - ML in Manufacturing (11/2023 | #3rd Place)**

- Developed an ML-based sensor replacement with Random Forest Regression, cutting temperature sensor failures by 30%.
- Created a real-time predictive model for production accuracy, boosting efficiency by 20%.

## Education

**Master of Science**: Research in Computer And Systems Engineering, 10/2021 - 10/2025
**Technische Universität Ilmenau** - Ilmenau, Thüringen

**BCA**: Computer Science, 08/2017 - 08/2020
**Maulana Abul Kalam Azad University of Technology** - Kalyani, India

## Languages

English
Advanced (C1)

German
Elementary (A2)