

EDUCATION

- **University of Colorado Boulder** Boulder, CO
Master's in Computer Science; GPA: 4.00 *Aug 2023 – Dec 2024*
 - *Relevant Coursework:* Design and Analysis of Algorithms, Data mining.
- **R V College of Engineering** Bangalore, India
Bachelor of Engineering in Electronics and Communication; GPA: 3.64 (9.08/10.0) *Aug 2017 – July 2021*
 - *Relevant Coursework:* Object-Oriented Programming, Data Structures and Algorithms, Operating Systems, RDBMS Design, Object-Oriented Design, Computer Networks.

TECHNICAL SKILLS

- **Languages:** Java, C, C++, Python, Golang, Javascript, Typescript, HTML, CSS
- **Frameworks:** Spring Boot, Django, Node.js, React.js, Groovy, Junit, TestNG
- **Databases:** MySQL, PostgreSQL, DynamoDB, MongoDB, Redis
- **Technologies:** AWS, Apache Kafka, RabbitMQ
- **Tools:** Git, Docker, Kubernetes, JIRA, wiki, Confluence, Matlab, IntelliJ, Eclipse

EXPERIENCE (2.5 YEARS)

- **Amazon** Bangalore, India
Software Development Engineer *July 2022 - Aug 2023*
 - Instrumental in the development and launch of Sidewalk for commercial use, granting individuals free access to **5 million** Amazon devices as gateways, offering low-power and low-bandwidth networks for their IoT devices. This extensive network covered **90%** of the US population.
 - Led the development of data compliance services for Sidewalk to comply with regulations such as GDPR and CPPA and ensure privacy to our massive **~3 million** users. **Used Java, Typescript, AWS Lambda, SQS, SNS and DynamoDB.**
 - Created pipelines and enabled **Continuous integration and deployment (ci/cd)** for multiple services, ensured high five nines availability (**99.999%**) by multi-region deployment and implemented unit and integration tests. **Used Java, Junit, TestNG.**
- **SAP Labs** Bangalore, India
Associate Software Engineer *Feb 2021 - Jul 2022*
 - Responsible for developing cloud-native applications to facilitate the assembly of legal content within procurement contracts which involved leveraging a deep understanding of domain-driven design and principles of cloud architecture design. **Used Spring Boot, Java, Javascript, mySQL.**
 - Migrated messaging brokers between microservices from **RabbitMQ** to **Apache Kafka** and achieved an impressive high throughput **10000 messages/sec**, an increase of **~70%** while maintaining the same low latency.
 - Enabled and Fixed QKPIs such as Sonar, Fortify, Checkstyle, Whitesource on microservices built on maven build and reduced security issues of microservices by almost **95%**.

PROJECTS

- **Evaluation of the performance of a Virtual Network:** Developed a Mathematical Model (Machine Learning ML Model) using ARIMA and HMM to predict various performance parameters of a VM instance such as CPU utilization and memory utilization by training time series data and concluded that ARIMA's error rate is **40%** less than HMM.
- **Survey and Rescue:** Developed a PID algorithm for solving real-time technology problems by simulating an autonomous micro quadcopter on Robotics Operating System (ROS) and Linux environment and secured real-time accuracy of **87%** compared to simulation.
- **Drowsiness Detection for Driver Safety:** Determines whether the driver is drowsy or not, by calculating blink rate with the help of sensors, embedded C++ code deployed to Aurdino with an IOT network and a response rate of **~1sec**

PUBLICATIONS

- **Karan Bantia**, Anala.M.R, "[\(Inter-Service Communication among Microservices using Kafka Connect\)](#)," 2022 **IEEE** 13th International Conference on Software Engineering and Service Science (ICSESS), Beijing, China, 2022, pp. 43-47, doi: 10.1109/ICSESS54813.2022.9930270.