Aravind Vasudevan

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Education

Carnegie Mellon University – School of Computer Science *Pittsburgh, PA*
Master of Software Engineering – Scalable Systems *December 2020*
Coursework: *Distributed Systems, DevOps, Engineering Data Intensive Scalable Systems, Architecture for Software Systems, Introduction to Machine Learning, Analysis of Software Artifacts, Introduction to Computer Systems.*
Teaching Assistantship: *17323/17623: Quality Assurance. October 2020 - December 2020.*

Anna University *Chennai, India*
Bachelor of Engineering – Computer Science & Engineering *May 2018*

Experience

GoDaddy Inc. *Kirkland, WA (Remote)*
Software Development Engineer II *March 2021 - Present*
- Conceptualized a global control group feature which allows teams to access statistical impacts across a series of A/B tests.
- Integrated all our analytics services with monitoring tools to measure quality, availability, and performance of the product.
- Assembled a jenkins pipeline to test and auto-deploy projects using AWS CDK which is used by two new products.

Intern — Software Development Engineer *May 2020 - August 2020*
- Reduced execution time of the analytics tool by two hours by redesigning it into multiple processes.
- Devised an AWS Batch based architecture to parallelize analysis in the analytics tool, which will further decrease runtime.
- Volunteered for the scrum master role to handle our project backlog on Jira, scrum meetings, and retrospective.

Zoho Corporation *Chennai, India*
Member Technical Staff *June 2018 - May 2019*
- Simplified transaction handling by implementing an annotation-based framework using Aspect-Oriented Programming.
- Built an HTTP connection pool library that can share pools between modules separated across multiple codebases.
- Modularized i18n keysets by developing a library to load and validate keys across multiple repositories without collision.
- Distributed configuration across runtime-dependent repositories by building a tool to manage and validate conf files.
- Fixed distributed lock handling mechanism in Zoho CRM, which removed race-conditions between database operations.

Project Trainee *December 2017 - March 2018*
- Minimized dependency among teams by decoupling Zoho CRM into several compile-time independent components.
- Architected an observable-based inter-service communication framework that can resolve function calls at runtime.

Tata Consultancy Services *Chennai, India*
Project Intern *June 2017 - July 2017*
- Prototyped a chatbot to simplify data lookup in Planatics, a financial data management tool, using RASA NLU and flask.
- Separated the chatbot service from the tool using microservice design-pattern and REST API for service interaction.

Academic Projects

Distributed Bitcoin Miner *CMU Fall 2020*
- Modeled an application layer protocol on top of UDP with resilience, liveness, and packet sequencing.
- Developed the protocol to be connection-oriented and support the client-server model natively.
- Implemented a distributed bitcoin miner system on top of this protocol with fault-tolerance.
- Designed the miner to be the client and the server to load-balance mining jobs using SRTF scheduling and chunking.

Scalable Ecommerce Web Service *CMU Spring 2020*
- Engineered a highly-scalable e-commerce app that can serve over a million requests/minute using EC2 and load balancer.
- Handled search functionality for around a million products using AWS RDS for storage and AWS ElastiCache for caching.
- Improved response time to under a second by devising a distributed in-memory caching framework.
- Synchronized the distributed cache using the check-on-use invalidation strategy and handled overflow using LRU eviction.

Smart Home System *CMU Spring 2020*
- Built a java-based smart home web platform that can handle around 500 concurrent TCP connections.
- Assembled a CI/CD pipeline using Jenkins and Kubernetes that allowed single command update/rollback.
- Orchestrated an A/B testing component to split users between two ML models and analyze the success rate in real-time.

Skills

Programming Languages: Java, Python, Javascript, C, Bash, Go.
Backend & Database: Node.js, Struts, Spring, Flask, MySQL, MongoDB, Redis, RabbitMQ.
DevOps: Docker, Jenkins, Vagrant, AWS stack, Ansible, Kubernetes.
Frontend: Angular, JQuery, SCSS, HTML, CSS.