

# ARAVIND VASUDEVAN

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## Education

### Carnegie Mellon University – School of Computer Science

Master of Software Engineering – Scalable Systems

Pittsburgh, PA

December 2020

### Anna University

Bachelor of Engineering – Computer Science

Chennai, India

May 2018

## Coursework

Distributed Systems, DevOps, Engineering Data Intensive Scalable Systems, Architecture for Software Systems, Introduction to Machine Learning, Analysis of Software Artifacts, Object Oriented Analysis & Design, Introduction to Computer Systems.

## Experience

### GoDaddy Inc.

Intern — Software Development Engineer

Kirkland, WA (Remote)

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

Member Technical Staff

Chennai, India

June 2018 - May 2019

- Simplified transaction handling by implementing an annotation-based framework using Aspect-Oriented Programming.
- Designed an HTTP connection pool library that can share pools between modules separate in 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.

### Zoho Corporation

Project Trainee

Chennai, India

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

Project Intern

Chennai, India

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.

## Projects

### Scalable Ecommerce Web Application

Carnegie Mellon University

- Engineered a highly-scalable e-commerce app that can serve over a million requests/minute using EC2 and load balancer.
- Loaded around a million products into the system using AWS RDS for storage.
- Improved search response time to under a second by devising a distributed caching framework on AWS ElastiCache.
- Handled simultaneous requests from the same user by distributed session tracking on Redis.

### Smart Home System

Carnegie Mellon University

- 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.
- Performed static/dynamic analysis in the pipeline using JUnit, JaCoCo, Checker Framework, PITest to monitor quality.
- Orchestrated an A/B testing component to split users between two ML models and analyze the success rate in real-time.

### Yabber

Personal Project

- Implemented a MEAN-stack based group chat application with emoji, notification, and file-upload support.
- Modeled distributed session handling and message passing between sockets on Redis to allow stateless servers.
- Planned the software design pre-development using Software Requirement Specification and Data Modeling.

## Skills

**Programming Languages:** Java, Python, Javascript, Go, Typescript, C, Bash.

**Backend & Database:** Express (Node.js), Struts, Spring, Flask, MySQL, MongoDB, Redis, RabbitMQ.

**DevOps:** Docker, Jenkins, Vagrant, AWS stack, Ansible, Kubernetes.

**Frontend:** Angular, JQuery, SCSS, Handlebars, HTML, CSS, Electron.