Karthik Siddaramanna

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EDUCATION

University of Colorado Boulder — Boulder, CO, USA
Research based Master of Science in Computer Science — *August 2019-Present*

National Institute of Technology Karnataka — Surathkal, India
Bachelor of Technology in Computer Science and Engineering; GPA: 7.97/10 — *2013 – 2017*

VVS Sardar Patel Pre-University College — Bengaluru, India
Class XII Karnataka Pre-University Board; Percentage: 93.5 — *2011 – 2013*

VVS Sardar Patel High School — Bengaluru, India
Karnataka Secondary Education Examination Board; Percentage: 96.8 — *2010 – 2011*

EXPERIENCE

Intuit India Development Centre — Bengaluru, India
Software Developer — *August, 2017 - July, 2019*

- **Intelligent Retry System (IRS)**:
  - Persistent retry micro-service implemented as a resiliency solution for signups.
  - Built from scratch with Spring Boot Framework and Cassandra as the Database Server.
  - Individually built and handled deployment and release cycles in AWS. Also came up with incident management guidelines.
  - Added Splunk support, App Dynamics and created necessary dashboards for monitoring.

- **Quickbooks Online - Signup Team**:
  - QBO is online accounting software for small businesses.
  - Contributed as a developer to a huge monolithic codebase in adding various features like servlets, filters, etc.
  - Involved in the design and implementation of retiring several large tables from the central database.
  - Set up Data Migration Tasks for various micro-services.
  - Was part of Running The Business(RTB) team, tasked with fixing bugs in a production environment.

Intuit India Development Centre — Bengaluru, India
Software Developer Intern — *June 2016 – July 2016*

- **Quickbooks Online - Billing Team**:
  - Billing Team handled tasks like generating bills, payments, lockouts in case of non-payment etc.
  - Using ThreadPools and Hystrix, built an in-memory retry system as a resiliency solution for external calls.

Youngmonk Technologies — Bengaluru, India
Software Developer Intern — *June 2015 – July 2015*

- **Gozoomo**:
  - Gozoomo was a startup aimed at promoting peer to peer used car sales.
  - Developed new features in Clojure.
  - Built a technology blog website.

Undergraduate Coursework

Machine Learning; Design and Analysis of Algorithms; Data Structures and Algorithms; Computer Organization and Architecture; Operating Systems; Data Communication; Computer Networks; Theory of Computation; Compiler Design; Computer Graphics; Digital Image Processing; Database Management Systems; Distributed Database Systems; Distributed Algorithms; Discrete Mathematical Structures; Concrete Mathematics; Higher Calculus; Introduction to Graph Theory; Number Theory and Cryptography; Linear Algebra and Matrices; Probability Theory and its Applications;

Technical Skills

- **Programming Languages**: Proficient in C, C++, Java. Familiar with Python, Clojure, Erlang, R.
- **Frameworks**: Spring, SpringBoot
- **Web Development**: JavaScript, REST APIs, HTML, MySQL
- **Others**: Proficient in AWS, Maven, Git, Cassandra, Tomcat, Splunk, nginx, ns-3, ndnSIM.

Projects

- **Comparison of TCP vs NDN Routing Protocol**: Both the protocols were simulated over a standard dumbbell bottleneck topology to obtain their Link Utilization graphs. Congestion Control, packet loss, queuing and delay were used as metrics to come up with a quantitative comparison.
- **Payments Integration using NFC**: Integrated a service in Quickbooks Desktop Application to allow communication with a NFC ring that autocompletes details in the payments page. This was completed as a part of a Hackathon while interning at Intuit.
- **3-Edge Connectivity Augmentation**: Extended and implemented T. Watanabe's linear time algorithm for 2-edge augmentation to solve for 3-edge augmentation. This was achieved by compressing connected components, identifying pendants and achieving connectivity among them by adding edges in an optimized pattern. Used Lemon Graph Library for C++ for the implementation.
- **Quadratic Sieve**: Implemented quadratic sieve algorithm for prime factor determination in C without using any external libraries.

Publications

Gesture Recognition using Viola Jones Framework and Contour Detection, 11th Proceeding, IndiaCom 2017 [IEEE] conference. *Link*

Achievements

- Awarded National Talent Search Examination(NTSE) Scholarship (0.1% among 1 million students).
- All India Rank of 3111 among 1.4 million applicants in JEE-Mains.
- Rank of 99 (among 139,000 applicants) in Karnataka CET and 64 (among 90,000 applicants) in COMED-K.
- Executive Member of Web Enthusiasts Club and Gaming Committee at NITK.