Hari Amoor

Undergraduate Student · Rutgers University – New Brunswick

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Summary

I am an undergraduate student at Rutgers University, pursuing a B.S. in Computer Science and Mathematics. I am currently pursuing a role as an entry-level software engineer.

My area of interest in software is in backend and infrastructure-related products and processes. I love learning about different technologies, systems, and concepts in order to broaden my knowledge and perspectives as both a developer and an end-user of software. Therefore, I strive to pursue my academic interests in computer science, mostly in areas such as distributed systems, programming language theory, and network operations.

A lifelong student in more ways than one, I am also a hobbyist in theoretical computer science and abstract math; I particularly enjoy learning about complexity theory, algebra, and combinatorics. I see it as my duty and my privilege to continuously pursue mastery of different bodies of knowledge and contribute to human advancement in all analytical pursuits.

Experience

MongoDB, Inc. *New York, NY*

Software Engineer Intern *Jun. 2020 - Aug. 2020*

- Supported an effort across the Enterprise Tools department for improved MongoDB support for high-volume and high-complexity OLAP workloads
- Improved correctness and logging behavior of the MongoDB Database Tools – a suite of command-line interfaces for database operations
- Spearheaded several tasks to achieve optimization of the Tools' performance characteristics, resulting in over a 25% improvement in runtime speed
- Enabled a significant reduction in cases of undefined behavior across many of the department's products

Facebook, Inc. *Menlo Park, CA*

Software Engineer Intern *May 2019 - Aug. 2019*

- Engineered and maintained an end-to-end system to monitor application failures and expose a data warehouse of crash metadata for internal usage
- Designed and implemented a major refactoring of the categorization service for failures in native code on Android
- Improved server-side utilization of LLVM metadata, which is increasingly important for triaging Facebook mobile apps
- Enabled the reduction of cases of misaggregation and over-aggregation by the crash triaging pipeline by over 31%

Education

Rutgers University - New Brunswick *Piscataway, NJ*

B.S. in Computer Science and Mathematics *Sept. 2017 - PRESENT*

- **Coursework - Computer Science:** Operating Systems, Computational Robotics, Design and Analysis of Algorithms, Formal Langauges and Automata, Programming Languages and Compilers
- **Coursework - Mathematics:** Linear Algebra, Abstract Algebra, Real Analysis, Graph Theory, Finite Fields (audit), Combinatorics (audit)

Skills

Languages C++, Rust, Haskell, Go, Java, Python, JavaScript

Technologies MongoDB, SQL Server, Hive, Thrift, Kafka, ElasticSearch

Projects

Redundant Services Optimization Solver *Rutgers University – New Brunswick*

Open-Source Contribution *May 2020*

- Simplified implementation of Dr. Uli Kremer's RSDG Algorithm for optimization of redundant services in a class of programming language theory problems
- Utilized the Gurobi mathematical optimization solver to carry out a reduction of an NP-complete graph theory problem to a linear optimization problem

Tiny To-Do CLI *Rutgers University – New Brunswick*

Open-Source Contribution *May 2020*

- Tutorial of the Rust programming language – a command-line interface over a persistent to-do list CLI
- Provided extensive theoretical context in operating systems, programming languages theory, category theory, and homology type theory

Ludicrous Card System *Rutgers University – New Brunswick*

HackRU RnD team *Oct. 2018*

- REST API for web backend services utilized by various web and mobile apps designed for use by hackers and hackathon staff
- Supported the deprecation of a legacy service in favor of the new cloud-hosted and microservice-based system