Bhanu Garg

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Education

Aug 2021 - May 2022 | **Georgia Institute of Technology**, Atlanta, GA — GPA: 4.0/4.0
Masters of Science, Computer Science — Graduation date: May 2022
Specialization: Computer Systems

Aug 2018 - May 2021 | **Georgia Institute of Technology**, Atlanta, GA — GPA: 3.9/4.0
Bachelor of Science, Computer Science — Graduation date: May 2021
Concentration: Systems and Architecture & Networking

Skills

Languages: C#, Java, Golang, Python, C, JavaScript, HTML/CSS, SQL, VHDL
Software: Git, Docker, LaTeX, gRPC, Linux, AWS, SQLite, MySQL, NoSQL (MongoDB, CouchDB, DynamoDB), Vivado
Frameworks: .NET, React, React Native, Flask, Express, Electron
Concepts: Containerization, Agile/SCRUM, Microservices
Coursework: Databases, Networking, Compilers, Operating Systems, Digital Design, High Performance Computer Architecture, Reliability and Security in Computer Architecture, Processor Design, Enterprise Computing, Data Structures, Algorithms, Object-Oriented Design

Work Experience

Aug 2021 - Current | **Graduate Lead Teaching Assistant**
Georgia Institute of Technology | Real Time Embedded Systems
- Managing other TA's with work and grading responsibilities
- Creating and grading Real Time/Embedded Systems research papers reading assignments for students
- Working with students on semester projects and students interested in research related projects

May 2021 - Aug 2021 | **Software Engineering Intern**
Roblox
- Performed data migration for 200 terabytes of usage-metrics metadata from Datastores V1 to Datastores V2
- Designed and created an abstracted **Redis** based metrics accumulator to aggregate data based on shared keys
- Migrated data from **Amazon S3** while maintaining low memory overhead, and performing atomic and idempotent updates to **DynamoDB**

June 2020 - April 2021 | **Software Engineering Intern | Summer Full-Time & Fall/Spring Part-Time**
Roblox
- Developed a scalable solution to collect data usage metrics for Datastores V2 in a **C#** and **.NET** environment
- Aggregated data values across thousands of DynamoDB partitions
- Created a microservice using **Docker** and service endpoint for platform developers to view game resource usage
- Wrote unit and component tests for Datastores V2 usage metrics

Research

Aug 2021 - Current | **CUDA Support for Vortex**
Masters Project | High Performance Architecture Lab
- Working on enabling the required **CUDA** runtime API functions for **x86** and **Vortex**
- Supporting the ability to run CUDA on Vortex without POCL and CuBLAS for **RISC-V** and Vortex
- Testing CUDA runtime implementation with machine learning benchmarks and TensorFlow.

Jan 2021 - Current | **Nonprofit Organizations Research Panel Platform**
Database Systems | Center for Experimental Research in Computer Systems (CERCS) Lab
- Developing a high-level platform for analysis of aggregated Nonprofit Organization data
- Performing data integration of Facebook Data for Good and IRS Nonprofit data in **MySQL**
- Constructed and executed **SQL** queries in Metabase over the created dataset
- Researched solutions for extracting Nonprofit contact information from IRS 990 forms and web-scraping contact information from associated websites

Projects

Aug 2020 - Dec 2020 | **Klemis Kitchen App**
Capstone group project
- Helmed a team of five programmers and developed a mobile app to assist Klemis Kitchen staff and students in viewing inventory, on-boarding new students, and communicating with users
- Engineered a back-end with **Golang**, **MongoDB**, and Amazon S3, while interfacing with a point-of-sale system
- Built a front-end with **React Native** and HTML/CSS to display inventory, map locations, and staff announcements