Barath Kumar GaneshKumar

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EDUCATION

NEW YORK UNIVERSITY — New York, NY

Master of Science, Computer Science — Sept 2023 - May 2025

- CPGA: 3.89/4.00
- Graduate Student at Courant Institute of Mathematical Sciences
- Coursework: Fundamentals of Algorithms; Geometric Methods for Algorithm Design; Cryptography; Cryptography for Blockchain; Operating Systems; Programming Languages;

PSG COLLEGE OF TECHNOLOGY — Coimbatore, India

Bachelor of Engineering, Computer Science & Engineering — Jul 2019 - Jul 2023

- CPGA: 9.85/10.00
- Recipient of Best Outgoing Student Award and Department Rank Holder for the Batch of 2023
- Served as the Secretary of the Computer Science and Engineering Association
- Coursework: Data Structures; Deep Learning; Machine Learning; Software Engineering; Database; Artificial Intelligence; Design and Analysis of Algorithms; Social and Economic Network Analysis; Distributed Systems

PROFESSIONAL EXPERIENCE

AMAZON DEVELOPMENT CENTER — Chennai, India

SOFTWARE DEVELOPMENT ENGINEER INTERN — Jan 2023 - Jun 2023

- Worked as a part of the 6-membered SQS - Core Tech Team under the Digital Support Engineering Division, in backend, frontend, and full-stack development
- Investigated and implemented an efficient technique to record page-level metrics across 3 applications at minimum cost, saving 5 hours per week of manual analysis, using agile methods
- Enhanced the processing and visualising of 30+ web vitals, 500+ frequently occurring errors, and navigation trends of 12000+ active users, using AWS CloudWatch RUM
- Developed an end-to-end, 'Insights and Conversations' feature for 1100 internal testers and 200+ stakeholders to raise concerns and record insights on 13 testing metrics and start interactive conversations on the insights

SAMSUNG RESEARCH INSTITUTE — Bangalore, India

RESEARCH INTERN — May 2021 - Nov 2021

- Conceived a novel machine learning model that makes decisions to execute JavaScript compute units locally or remotely by predicting and comparing the time of execution in the local machine and 7 different servers by analysing execution time of 10000+ executions of 6 sorting algorithms in each machine
- Achieved an accuracy of 97.1% in predicting the execution time of a given application in multiple devices using a single model and an accuracy of 99.2% in making the correct offloading decision
- Received a 'Certificate of Excellence' for the work done in solving the offload decision making problem and reducing the average time to execute a compute unit by 37%.

TECHNICAL SKILLS

Programming Languages: C++; Java; Python; JavaScript; HTML; CSS; MySQL; Typescript; Rust; Circom; Solidity
Tools and Frameworks: ReactJS; REST API; Spring Boot; Bootstrap; Git; AWS; Docker; Tensorflow; PyTorch; Arkworks

LEADERSHIP & ACTIVITIES

- Served as the Secretary (Aug 2021- Jul 2022) and Joint Secretary (Aug 2022- Jul 2023) of the Computer Science and Engineering Association at PSG College of Technology, organising seminars and technical events
- Served as the Problem Setter for the Coding Club at devising 50+ programming questions
- Runner-up in the 48-hour International Front-end Hackathon, Hack 2k21, hosted by E-Cell IIIT Pune, Jun 2021
- Active participant and winner in various competitive programming contests - Google Kickstart, Codechef, Codeforces, Hackerrank, Leetcode and other inter-college contests
- Presented and published research papers on 'Offload Decision Making For Web Applications' and 'Unified Parsing Script Using Machine Learning' at IEEE conferences, focusing on data science and machine learning