

Athreya Chandramouli

<https://athreya.github.io/>

cathreya98@gmail.com

+1 650-224-7264

EXPERIENCE

- Google** Sunnyvale, California, USA
Software Engineer III - Data Indexing Systems Nov 2024 - Present
 - Designed and implemented a generic automatic rollback framework in **Golang** for a complex microservice indexing system, enabling rapid automated recovery without prior fault localization; **reduced manual intervention time to ~ 1 minute and cut total recovery time by 50%**.
 - Engineered and maintained components for exabyte-scale distributed indexing systems supporting core Google products (Search, Ads, YouTube), focusing on reliability, performance, and automation.
 - Technical point of contact for the Youtube Embeddings indexer, coordinating development and resource planning across teams.
- Google** Dublin, Ireland
Software Engineer III - Ads Quality Infra, Smart Alerting Oct 23 - Nov 24
Software Engineer II - Ads Quality Infra Sep 22 - Oct 23
 - Optimized a petabyte-scale data aggregation pipeline for the Adwords Smart Alerting system using **C++**, **Python**, and **MapReduce**. Developed and implemented algorithmic and system-level improvements to handle increased data volume, achieving a **~ 112% reduction in runtime and ~ 170% decrease in resource cost**.
 - Engineered a robust data versioning system using **C++** and **Python** for a petabyte-scale data retrieval pipeline. Transformed complex, manual data mutations into an automated process, enabling features like automated backfills and safe rollbacks, **reducing developer effort from days to minutes**.
 - Developed and maintained critical components for exabyte-scale Adwords data extraction systems (**C++**, **Golang**, **Python**), focusing on system reliability and performance under load. Led incident response efforts applying systematic debugging to minimize impact.
- Rubrik** Remote, India
Software Engineering Intern - HyperV Infrastructure May - Aug 21
 - Developed Hyper-V simulator (C++, Python) mocking WMI/Thrift calls for automated testing; reduced setup time from days to minutes.

EDUCATION

- International Institute of Information Technology (IIIT- H)** Hyderabad, India
Bachelor of Technology + Master of Science by Research in Computer Science and Engineering 2018 - 2022
 - GPA: 9.64/10.0 (~3.86/4.0); GPA(Major): 9.72/10.0 (~3.89/4.0)**
 - Award: Program Gold Medal** (Highest GPA in Program)
 - MS Thesis:** Efficient Parallel and Approximation Algorithms for Percolation Centrality (Advised by Prof. Kishore Kothapalli).
 - Relevant Coursework:** Algorithms, Data Structures, Distributed Systems, Operating Systems, Computer Networks, Compilers, Machine Learning, Information Theory & Coding, Optimization Methods, Cryptography, Parallel Computing, Databases.

PUBLICATIONS

- Coded Data Rebalancing for Distributed Data Storage Systems with Cyclic Storage.** Athreya Chandramouli, Abhinav Vaishya, Prasad Krishnan. *2022 IEEE Information Theory Workshop (ITW)*.
- Efficient Parallel Algorithms for Percolation Centrality.** Athreya Chandramouli, Sayantan Jana, Kishore Kothapalli. *2021 IEEE 28th Int'l Conf. on High Performance Computing, Data, and Analytics (HiPC)*.

LANGUAGES AND TECHNICAL SKILLS

- Programming Languages:** C++, Python, Golang (Working Knowledge); C, SQL, MATLAB (Familiar)
- Skills:** Algorithms & Data Structures, Distributed Systems, Software System Design, Large-Scale Data Processing, Performance Optimization & Tuning, High-Performance Computing (HPC), Systems Programming, Reliability Engineering, Simulation & Modeling, Information Theory & Coding, STL, Boost, NumPy, Pandas, Scikit-learn, Apache Thrift, MapReduce/Beam (Flume), LLVM, Flex/Bison, Git, Docker, Linux/Unix, GDB, Bazel, Protocol Buffers.