Yuvaraj Chesetti

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SUMMARY

Computer Science Ph.D. student at Northeastern University (starting Spring 2025) under the supervision of Prof. Prashant Pandey. My research centers on developing efficient data structures with strong theoretical foundations to handle large-scale data processing. Previously, I worked as a Software Engineer at Google for five years, focusing on internal tools and infrastructure that improved the efficiency of development, testing, and release processes across multiple product teams.

EDUCATION

Northeastern University, Boston, MA USA — Spring 2025 - 2027 (Expected)
Ph.D. Computer Science

University of Utah, Salt Lake City, UT, USA — Fall 2022 - 2024
Masters. Computer Science

Birla Institute of Technology, Mesra, India — 2012-2016
B.S in Computer Science

PUBLICATIONS

ZombieHT: Reanimating Tombstones in Graveyard — *SIGMOD 2025*
Yuvaraj Chesetti*, Benwei Shi*, Jeff Philips, Prashant Pandey

RESEARCH PROJECTS

Efficient Data Structures — *Summer 2023-Present*

- Developing highly space-efficient hash tables that maintain consistent performance under high load factors, without downtime. Extended an efficient quotient filter implementation and Google's open-source Abseil (Absl) hash table to achieve this.
- Currently researching adaptive range filters, which efficiently handle range queries while providing stronger guarantees against repeated false positives to protect against adversarial attacks.

Optimizing 2D graphics using E-Graphs — *Fall 2022 - Spring 2023*

- Implemented a proof-of-concept to optimize memory usage in the 2D graphics backend library (Skia) used by Google Chrome, utilizing Egg—a high-performance rule-based rewrite system based on E-Graphs.
- Conducted the project as a Graduate Research Assistant, funded by Prof. Pavel Panchekha.

TEACHING

Teaching Assistant, CS 6530: Advanced Database Systems, University of Utah — *Fall 2024*
Assisted in teaching advanced topics in database systems, delivered a lecture on learned indexes.

INDUSTRY EXPERIENCE

Google — India

Software Engineer L4, Unified Fleet Optimization (UFO) EngProd, Bangalore — *Nov 2019 - July 2021*

- Developed an automated missing test suggestion tool to reduce coverage gaps in large integration tests by cross-referencing production traces with test traces across the entire Unified Fleet Optimization team, which is an organization of roughly a thousand engineers.

Software Engineer L4, xGA Search, Bangalore — *Nov 2018 - Nov 2019*

- Lead on team for delivering a curation pipeline used in delivering short videos to the Google Discover Feed.

Software Engineer L3-L4, Google Pay, Hyderabad — *July 2016 - Nov 2018*

- Member of the launch team of Tez (now rebranded as Google Pay India).
- Project Lead on load testing infrastructure. The infrastructure allowed developers to conduct scalability tests before production launches, resulting in more stable releases. The load testing infrastructure was also critical in preventing several releases that would have caused outages.
- Implemented Backend APIs and caching layer improvements for a new payment flow.