GUNA PRASAAD

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INTERESTS

Databases, Distributed Systems and Programming Languages

EXPERIENCE

WhatsApp, Menlo Park | *Senior Software Engineer* Apr 2020 - Present
Led a team of full-stack engineers to deliver many core product features for Novi on WA. As the backend tech lead, built secure data sharing between WA and Novi, scalable client-synchronization for optimizing key product flows, and a staggered multi-platform rollout for the US and Guatemala markets at WA scale.

Facebook, Menlo Park | *PhD Intern* Summer 2019
Built strict FIFO ordering in LogDevice, a distributed logging platform in Facebook, to support streaming appends. New capability enabled onboarding more teams to use LogDevice.

Google, Mountain View | *PhD Intern* Spring 2019
Built a distributed signal collection service to monitor load and server failures for Slicer, an auto-sharder for data center applications at Google. Enabled fine-grained service monitoring at scale.

Microsoft Research, Redmond | *Research Intern* Summer 2017
Built one of the fastest open-source key-value store, called FASTER, that is an order of magnitude faster than state-of-the-art and developed a new semantic checkpointing consistency that allows for almost zero-overhead concurrent checkpointing of a database. Published our research in SIGMOD 2018 and 2019.

Microsoft Research India, Bangalore | *Research Assistant* Aug 2015 - Sep 2016
Built a realtime deterministic stream processing engine for multicores that involves novel non-blocking concurrent data structures and dynamic scheduling heuristics. Published our research in BIRTE 2019.

Adobe Advanced Technologies Lab, Bangalore | *Research Intern* Summer 2014
Developed a novel method of personalizing email campaign using the linguistic style of target segment and proved its usefulness using crowd-sourced experiments. Published our work in CICLING 2015 which won the *best paper award*.

EDUCATION

University of Washington, Seattle **Masters in CS**
Advisors: Dan Suciu, Alvin Cheung Sep 2016 - Dec 2019
Built a novel transaction processing scheme that improves throughput by upto 2× over traditional concurrency control protocols for high contention workloads. Published our research in SIGMOD 2020.

IIT Bombay, Mumbai **Bachelors in CS**
Advisor: S. Sudarshan Aug 2011 - May 2015
Built an optimized version of on-disk index structure for bulk primary-key inserts based upon Buffer Trees (Lars Arge, 1995) as part of my bachelor's thesis.

PUBLICATIONS

G. Prasaad, A. Cheung, D. Suciu.
Handling High Contention OLTP Workloads using Fast Dynamic Partitioning.
SIGMOD 2020.

B. Kenig, P. Mundra, G. Prasaad, B. Salimi, D. Suciu.
Mining Approximate Acyclic Schemes from Relations
SIGMOD 2020.

G. Prasaad, B. Chandramouli, D. Kossmann.
Concurrent Prefix Recovery: Performing CPR on a Database.
SIGMOD 2019. **[Best of SIGMOD 2019; Invited to ACM TODS]**

G. Prasaad, G. Ramalingam, K. Rajan.
Scaling Ordered Stream Processing on Shared-Memory Multicores.
BIRTE 2019, VLDB Workshop.

B. Chandramouli, G. Prasaad, D. Kossmann, J. Levandoski, J. Hunter, M. Barnett.
FASTER: An Embedded Concurrent Key-Value Store for State Management.
VLDB 2018 (Demo).

B. Chandramouli, G. Prasaad, D. Kossmann, J. Levandoski, J. Hunter, M. Barnett.
FASTER: A Concurrent Key-Value Store with In-Place Update.
SIGMOD 2018.

R. S. Roy, A. Padmakumar, G. P. Jeganathan, and P. Kumaraguru.
Automated Linguistic Personalization of Targeted Marketing Messages Mining User-Generated Text on Social Media.
CICLing 2015. **[Best Paper Award]**

PATENTS

B. Chandramouli, G. Prasaad, D. Kossmann, J. Levandoski, J. Hunter, M. Barnett.
FASTER Key-Value Store System.
USPTO Appl. No. 15/917,352 (Pending).

R. S. Roy, G. P. Jeganathan, A. Padmakumar, and P. Kumaraguru.
Linguistic Personalization of Messages for Targeted Campaigns.
USPTO App No. 14/566,181 (Granted).

SERVICE

- Program Committee Member: VLDB 2023
- External Reviewer: SIGMOD 2022, SIGMOD 2019

HONORS

- Awarded CSE Research Fellowship, University of Washington, 2016
- Recipient of Narotam Sheksharia Scholarship for Undergraduate Studies, 2012
- Recipient of the KVPY Scholarship 2011 by the Govt. of India with an All India Rank 13
- Certificate of Merit in CS (2011); Awarded to top 1% students by CBSE (India)
- All India Rank 326 in IIT-JEE 2011, among 500,000 candidates

TEACHING

Intro to Data Management, University of Washington | *Graduate Teaching Assistant* Fall 2019

Intro to CS (CS101), IIT Bombay | *Head Teaching Assistant* 2014-15

Undergrad Programming Languages (CS302), IIT Bombay | *Teaching Assistant* Spring 2015

LEADERSHIP

Onboarding to WhatsApp Payments Backend 2021
Designed and organized a set of recorded onboarding sessions in the WhatsApp Payments org that currently serves as a mandatory onboarding course for all new backend engineers.

Seminar on Databases and Blockchains [website] Winter 2018
Organized a series of 10 talks by academics and practitioners on blockchains and databases.

Deep Learning Meets Databases Seminar [website] Fall 2017
Curated topics and papers to guide a quarter-long discussion on deep learning and databases.

Mentor, Department Academic Mentorship Programme [website] 2014-15
Mentored a group of 14 junior students on academic issues and helped cope up with academic pressure and complete the course of study successfully.

Manager of Programming Club [website] 2013-2014
Organized 22 events comprising talks, workshops and competitions over a wide range of programming topics. Promoted open source contributions through GSOC and participation in programming contests such as ACM-ICPC.