Abtin Bateni

abtinbateni@gmail.com | linkedin.com/in/abtin-bateni | github.com/mr-bat

Software Engineer

Accomplished software engineer with 2.5 years of experience at Google, working on large-scale databases and distributed systems part of Google Spanner. Proven track-record of software engineering excellence with a seasoned background in competitive programming, having ranked 56th globally in ACM-ICPC 2017 and top 7 nationally from 2016 to 2018.

WORK EXPERIENCE

Software Engineer   04/2022 - present
Google, Spanner team - Distributed SQL Database Management and Storage — (website, linkedin)   Kirkland, WA
- Improved query optimizer's performance by up-to 2x in complex corner cases by developing a novel hint system
- Enabled large-scale ML queries over Spanner Data Boost by implementing a dynamic fault-tolerance mechanism
- Developed three key features for Spanner Data Boost that directly improved query performance by 5%+
- Ensured successful launch of Spanner Data Boost by developing a billing pipeline for handling all traffic/payments
- Designed a caching mechanism for Spanner Data Boost, achieving 40% hit-efficiency and reducing API calls by 2%
- Enabled isolated monitoring across all regions for Spanner Data Boost by implementing a new set of probers
- Automated the Spark-Spanner connector release, saving 10+ hours of developer's time per release

Software Engineer Intern   06/2021 - 09/2021
Google, Spanner team - Distributed SQL Database Management and Storage — (website, linkedin)   Santa Barbara, CA
- Developed a C++ library to investigate complex scenarios where query changes resulted in query-plan modification
- Implemented a key feature to visualize regions where differing or changing queries result in a similar query-plan
- Improved query-plan understanding by identifying 9 unanticipated plan changes and one unexpected plan case

EDUCATION

University of California, Santa Barbara   09/2019 - 03/2022
M.Sc. in Computer Science, *Distributed Systems Specialization*   Santa Barbara, CA
- Relevant Coursework: Adv. Distributed Systems (A), Scalable Internet Services (A+), Cloud Computing (A)

University of Tehran   09/2015 - 07/2019
B.Sc. in Software Engineering   Tehran, Iran
- **Honors Thesis:** 4x Faster Data Structure Design for Handling Stock Exchange Transaction Matching (in Java)
- TAed for 8 courses, including Advance Programming, Data Structures, Design Algorithms, Internet Engineering and Engineering Probability and Statistics, designing 10 assignments in C++/Python/React.js, helping 400+ students

SELECT PROJECTS

All on Cloud 9 *(github)* | *Blockchain, NATS, Kubernetes, Docker, Go, AWS, Ubuntu, Git*   Spring 2020
- Developed a blockchain ledger to connect 3+ distrusting parties maintaining anonymity of transaction information
- Implemented four consensus protocols for efficient use of resources, solving 3 different encompassing failure modes

Distributed Sandbox *(github)* | *Go, Travis CI, Express.js, Node.js, Ubuntu, Git*   Winter 2020
- Implemented and tested Paxos, distributed dictionary, and Lamport lock protocol and simulated a blockchain
- Setup a separate server for automatic bookkeeping of node addresses and CI/CD to smooth the development

NAOFS *(github)* | *C, libfuse, Travis CI, Coveralls, Ubuntu, Git*   Winter 2020
- Designed, implemented, and tested an entire file system to work on the linux kernel using FUSE

AWARDS

ACM-ICPC World Finals, Ranked 56th Internationally   05/2017
Competed in the ICPC, the most established multi-stage programming contest for university students worldwide. Utilized effective teamwork skills to solve programming problems in data structures and algorithms.

TECHNICAL SKILLS

- **General**: Databases, SQL, CI/CD, Testing
- **Languages**: C/C++, JavaScript, Java, Python, Go
- **Frameworks**: React.js, Node.js, Express.js
- **Tools**: Git, Docker, AWS, TravisCI, GitLab CI, Linux