Souvik Banerjee

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Experience

Tudor Investment Corporation — *Oakland, CA*
Quantitative Developer: Macro Pipeline — Nov 2024 - Present
- Quantitative research and development in support of low latency trading systems

Apple — *Cupertino, CA*
Senior Software Engineer: Core OS Kernel Technologies — Sep 2019 - Nov 2024
- Led a team to develop application execution and device driver subsystems in a new, highly secure operating system.
- Architected new features for third party device drivers on iPad, adding support for custom USB and Thunderbolt devices. Presented at WWDC 2022.
- Designed, implemented, and evaluated new features to improve product security and stability.
- Maintained, improved, and evolved the XNU kernel at the core of Apple operating systems.

Software Engineer Intern: Core Kernel — May 2018 - Aug 2018
- Designed new feature to find concurrency bugs using randomized scheduling.

University of Texas at Austin — *Austin, TX*
Undergraduate Researcher — Aug 2017 - Aug 2019
- Improved write amplification in RocksDB by using fragmented log-structure merge trees.
- Analyzed performance and I/O behavior of Linux filesystems. Presented findings at the UT Undergraduate Research Forum.
- Prototyped new blockchain architectures with a focus on network and storage performance.
- Ponnapalli, Soujanya, Aashaka Shah, **Souvik Banerjee**, Dahlia Malkhi, Amy Tai, Vijay Chidambaram, and Michael Wei. "RainBlock: Faster Transaction Processing in Public Blockchains." In 2021 USENIX Annual Technical Conference (USENIX ATC 21).

Teaching Assistant — Aug 2016 - Dec 2017
- Taught CS 439H Operating Systems Honors, CS 429H Computer Architecture Honors, CS 311 Discrete Mathematics.

Point72: Cubist Systematic Strategies — *New York, NY*
Research Analyst Intern: FX Options Trading — Dec 2018
- Improved performance of automated trading systems by requesting quotes in parallel using the FIX protocol.

Citadel Securities — *Chicago, IL*
Software Engineer Intern: Low Latency — Sep 2018 - Nov 2018
- Enabled performance analysis of automated trading systems by creating tools to analyze compiler optimizations.

Facebook — *Menlo Park, CA*
Software Engineer Intern: WhatsApp iPhone — May 2017 - Aug 2017
- Added new features: Switch seamlessly between voice and video calls, notify contacts when changing phone number.

Software Engineer Intern: WhatsApp VoIP — May 2016 - Aug 2016
- Improved reliability and deployment speed for WhatsApp's VoIP relay server, reducing upgrade times by 99%.

Education

University of Texas at Austin — *May 2019*
B.S. Computer Science Honors, Mathematics — GPA: 3.989
- **Turing Scholar, Distinguished College Scholar, University Honors**
- Honors Thesis: Implementing Stateless Clients in Ethereum

Colleyville Heritage High School — *May 2015*

Skills & Coursework

Languages & Frameworks — C, C++, Swift, Rust, Python, Objective C, Java, JavaScript, React, ARM assembly, x86 assembly

CS Courses — Artificial Intelligence, Computer Vision, Computer Graphics, Algorithms, Operating Systems, Programming Languages, Computer Architecture, Data Structures