

Souvik Banerjee

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Experience

- Apple** Cupertino, CA
Software Engineer: Darwin Kernel & Runtime Sep 2019 - Present
- 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.
 - Prototyped architectures for future products and categories.
 - 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.
 - Ponnappalli, Soujanya, Aashaka Shah, **Souvik Banerjee**, Dahlia Malkhi, Amy Tai, Vijay Chidambaram, and Michael Wei. "Rain-Block: 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** Computer Graphics, Artificial Intelligence, Computer Vision, Algorithms, Operating Systems, Programming Languages, Computer Architecture, Data Structures