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Ohad Rau

https://ohad.space
US Citizen

Education

Georgia Institute of Technology — Atlanta, GA
B.S. in Computer Science, Cumulative GPA: 3.9 / Major GPA: 4.0 — *Aug 2018 – May 2022*

- **Concentrations**: Computer Architecture & Modeling/Simulation
- **Selected Coursework**: Operating Systems, Algorithms, Compilers, Computer Organization, Systems & Networks

Experience

Jane Street Capital – Networking Dev & Commodities Desk — New York, NY
Software Engineering Intern — *Jun 2021 – Aug 2021*

- Collaborated with Network Engineers to design tool to configure multicast for new routers and data centers
- Enhanced caching in data-fetching framework, reducing runtime of frequently-used trading tools by as much as 50%

Citadel Securities – Advanced Technology Group — Chicago, IL
Software Engineering Intern — *Feb 2021 – Apr 2021*

- Created high-throughput end-to-end load testing system for quality assurance and performance measurement
- Identified bottlenecks in mission-critical system, evaluated their root causes and helped plan long-term solutions
- Technologies used: multicast, kernel-bypass networking, C++17, KDB/q, gRPC, Ansible

Two Sigma Investments – Storage Reliability Engineering — New York, NY
Software Engineering Intern — *May 2020 – July 2020*

- Designed tooling and REST web API for viewing statistics on various internal storage products
- Created framework for efficient data acquisition from various sources (DBs, keystores, filesystems)
- Mapped out millions of dollars in storage expenditures spread over 100+ petabytes, enabling future cost saving

Google – Node.js Team — Sunnyvale, CA
Software Engineering Intern — *May 2019 – Aug 2019*

- Created JavaScript to WebAssembly bindings generator to enable the use of native C libraries in Node.js
- Coordinated efforts with members of the Node community to add WebAssembly support for Node's N-API
- Built support for interacting with WebAssembly programs in the V8 JavaScript Engine's API

Rolltrax — Atlanta, GA
Founder, Software Engineer — *Nov 2017 – May 2019*

- Designed and implemented system to meet the needs of Work-Based Learning classrooms across Georgia
- Launched attendance management system for student interns, utilized by North Springs High School since 2018

Projects

- **Raspberry Pi Operating System**: Implemented a kernel for a Raspberry Pi in Rust for Operating Systems course. Developed bootloader, drivers, memory management, shell, FAT32 filesystem, preemptive multitasking.
- **Optimizing TigerIR Compiler**: Designed and built an optimizing compiler for Compilers course. Utilized my own OCaml nanopass framework to perform instruction selection and optimizations such as Chaitin-Briggs register allocation, deadcode elimination, and copy propagation.

Publications

- Ohad Rau, Caleb Voss, and Vivek Sarkar, "Linear Promises: Towards Safer Concurrent Programming", in 35th European Conference on Object-Oriented Programming (ECOOP 2021), LIPIcs, Vol. 194, pp. 13:1-13:27, 2021. https://doi.org/10.4230/LIPIcs.ECOOP.2021.13

Skills

Languages: OCaml, Java, C, Rust, Modern C++, Python, Ruby, JavaScript, Coq, Assembly

Technologies: Linux, Debugging, OOP, SQL, Git, OS Fundamentals, Multicast Networking

Interests: Compiler Design, Systems Programming, Quantitative Finance, Hip-Hop Music, Cooking, Travel