

# Yaakov Stein

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## EDUCATION

**New York University, Courant Institute of Mathematical Sciences**, New York, NY May 2026  
*Master of Science in Computer Science, Specialization in Systems*

**Yeshiva University, Yeshiva College**, New York, NY December 2024  
*Bachelor of Arts in Mathematics, Specialization in Computer Science* GPA: 3.95  
*Jay and Jeannie Schottenstein Honor Student, Excellence Award in Mathematics and Computers, Dean's List*

**Relevant Coursework:** Compiler Construction (PhD), Distributed Systems (PhD), Programming Languages (MS), Computer Organization, Artificial Intelligence, Algorithms, Probability & Statistics, Calculus I-III, Scientific Computing, Data Structures, Discrete Mathematics, Linear Algebra

## SKILLS

C++, Java, Rust, OCaml, Python, C, RISC-V, Spark, Object-Oriented Programming, Git/GitHub, AWS

## EXPERIENCE

**Palantir Technologies** February 2024 – August 2024  
*Software Engineer Intern* New York, NY

- Implemented parallelization and optimization techniques to overhaul legacy codebase, reducing runtime by ~94%
- Developed a sophisticated B.O.M. traversal tree algorithm capable of handling versions and cycles, enabling rapid navigation through hundreds of thousands of B.O.M.s within minutes

**Yeshiva University Mathematics Department** June 2023 – January 2024  
*Research Assistant* New York, NY

- Utilized machine learning and computational methods to optimize parameters of LPPLS and TDA financial models, enabling the models to fit real-world data and better predict financial crashes

**Amazon (AWS)** June 2023 – August 2023  
*Software Engineer Intern* Arlington, VA

- Designed and led the end-to-end development of a subscription service that is used by 100s of internal teams, using a highly scalable serverless architecture to enable secure risk data delivery via Slack
- Decreased access time from minutes to seconds, enhancing efficiency and saving valuable resources

**Yeshiva University C.S. Department** June 2022 – June 2023  
*Teaching Assistant (COM1300 – Introduction to C.S., COM1320 – Data Structures)* New York, NY

- Instructed 10s of students in 1:1 meetings and answered 100s of C.S. questions on Piazza for 50+ students

## PROJECTS

### ML to RISC-V Compiler (OCaml, RISC-V, Compiler Optimization)

- Engineered a multi-stage compiler in OCaml that transforms ML to optimized RISC-V assembly, implementing lexing, LL parsing, type checking, and intermediate code generation
- Developed optimization passes including dead code elimination and register allocation, resulting in efficient assembly code generation and improved runtime performance

### High-Performance Distributed Key-Value Store (C++, Multi-Paxos)

- Designed and implemented a distributed key-value store in C++ using the Multi-Paxos consensus algorithm, optimizing for fault tolerance, low latency, and high throughput
- Built an emulation framework to simulate an asynchronous network, enabling message passing and failure recovery

### Document Search Engine (Java)

- Built a search engine with efficient keyword search, deletion, and memory-managed caching

## LEADERSHIP AND ACTIVITIES

**President, Association for Computing Machinery (ACM)**, Yeshiva College Chapter May 2023 – January 2024  

- Led executive team, driving engagement and amplifying student voice, resulting in enhanced academic experience

**Volunteer Instructor, START! Science** January 2021 – January 2024  

- Taught science concepts and conducted experiments for STEM education to underserved public school students

**Volunteer Advisor & Emergency Medical Technician (EMT)**, NCSY, Beit Meir, Israel June 2021 – August 2021