

Jonathan A. Klein

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EDUCATION

Lehigh University, Bethlehem PA

Aug 2021 – May 2025

Bachelor of Science: Computer Science & Mathematics

GPA: 3.95

- Relevant Coursework: Data Structures & Algorithms, Advanced Algorithms, Combinatorics, Graph Theory, Operating Systems, Parallel Computing, Compiler Design, Databases, Blockchain Systems, Systems Software, Web Systems Programming, Probability & Simulations
- Honors: Wilbur Mathematics Prize (1 of 4 students chosen), Deans List (All semesters)
- Extracurriculars: Lehigh ACM (President), Mathematics & Statistics Society (Vice President), Chess Club

PROFESSIONAL EXPERIENCE

Data Science Intern

Jun 2022 – Jul 2022

Mutual of America, New York, NY

- Optimized natural language processing (NLP) algorithms on datasets comprising over 200,000 records
- Employed data warehousing techniques with Python and SQL to organize large datasets
- Leveraged machine learning and statistical techniques to process workloads

OTHER EXPERIENCE

Researcher: Numerical Methods, Iterative Methods, Linear Algebra

January 2024 – Present

Lehigh University, Bethlehem PA

- Benchmark subspace recycling methods on large workloads
- Optimize MATLAB implementation of GCRO-DR algorithm

Teaching Assistant: Data Structures, Computer Organization & Architecture

Jan 2023 – Present

Lehigh University, Bethlehem PA

- Grade assignments and provide constructive feedback for 200+ students
- Conduct weekly office hours to assist students in programming and optimizing Java and C code
- Mentor students in understanding fundamental data structures, algorithms, and low-level computing

Researcher: Blockchain Systems, Zero-Knowledge and Cryptography

Jan 2023 – Dec 2023

Lehigh University, Bethlehem PA

- Benchmarked Zero-Knowledge proof frameworks on large workloads
- Created parallelized implementations of the PLONK framework using NVIDIA's CUDA toolkit
- Co-authored Scaling Zero-Knowledge to Verifiable Databases, doi.org/10.1145/3595647.3595648

PROJECTS

Chat Chambers

- Utilized socket networking to enable a uniquely lightweight messaging service (~23KB)
- Engineered an intuitive user interface using React.js, enhancing the overall user experience
- Implemented deployment and maintenance of personal HTTP server within Docker container

Airlytics ("Best Project Overall" winner in AWS hackathon)

- Developed platform showcasing global environmental factors via an interactive map using React.js
- Leveraged REST API fundamentals to fetch real-time air quality and pollution data
- Implemented scalable and secure data storage using AWS S3

Cleanr ("Most Impactful Project" winner in Google hackathon)

- Launched website to create and market events with the mission of cleaning up Lehigh's greenery
- Managed database of events and users using Firebase Realtime Database
- Enforced account security using Firebase Authentication tools

TECHNICAL SKILLS

Proficient: C/C++, JavaScript, Java, React.js, SQL, Python

Comfortable: Git, Node.js, HTML, CSS, Docker, Next.js, MongoDB, R

Familiar: Rust, CUDA, MATLAB, Scala, Assembly, Solidity