Lukas Mathesius

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Education

The University of Texas at Austin Aug. 2023 – May 2027
Bachelor of Science in Computer Science, Bachelor of Science in Mathematics, GPA 3.96 *Austin, TX*

Relevant Coursework
Computer Organization and Architecture, Linear Algebra, Probability, Advanced Calculus for Applications II, Principles of Computer Systems, Differential Equations with Linear Algebra, Software Engineering, Algorithms and Complexity

Experience

Operating Systems Teaching Assistant Aug. 2025 – Present
The University of Texas at Austin *Austin, TX*
- Undergraduate Course Assistant for CS439: Principles of Computer Systems
- Leading weekly discussion sections for 100+ students on concurrency, synchronization, and systems programming
- Assisting with grading and debugging projects involving scheduling, memory management, and file system design

Machine Learning Developer Aug. 2024 – Present
Longhorn Neurotech *Austin, TX*
- Building ML pipelines to process and classify EEG signals for real-time brain–computer interface applications
- Implementing feature extraction and model evaluation workflows to support low-latency control of virtual agents
- Competing in the annual NeuroTechX competition by controlling a virtual avatar using EEG-based inference

Projects

Fosterfledging | *AWS, Docker, Flask, Git, HTML/CSS, MySQL, Node.js, Postman, Python, React*
- Designed and implemented a full-stack web app using React, JavaScript, HTML, CSS, and a Flask-based backend
- Deployed a production web application serving real users, supporting iterative feature releases
- Containerized the app with Docker and used GitLab CI to deploy on AWS for consistent execution environments
- Coordinated team development on a shared codebase, making design decisions for scalability and maintainability

Investment Simulation App | *Git, Matplotlib, NumPy, Pandas, Python, PyTorch, Scikit-Learn, SciPy*
- Developed an app that lets users simulate investments of different types to practice for real-world applications
- Implemented automated strategies to benchmark user investment decisions against algorithmic baselines

File Compressor | *Eclipse, Java*
- Created a Java program that uses the Huffman Encoding Scheme to compress and decompress input files
- Developed algorithms to encode files into binary format, reducing file size while maintaining data integrity

EEL-Interpreter | *C, VS Code*
- Built a custom programming language known as Expression Evaluation Language using a C interpreter
- Created a program that parses, evaluates, and executes inputs using an abstract syntax tree

Technical Skills

Languages: C, HTML/CSS, Java, JavaScript, Python, SQL (MySQL)
Systems & Tools: AWS, Docker, Eclipse, Git, Linux, Postman, PyCharm, VS Code
Frameworks: Flask, Node.js, React
Libraries: Matplotlib, NumPy, Pandas, PyTorch, Scikit-Learn, SciPy

Honors

Distinguished College Scholar (2025)
University Honors (5 Semesters)
High School Valedictorian (of 450)

Additional Information

Languages: German (Native), English (Native), French (Conversational), Swiss-German (Conversational)
Citizenship: German, Swiss
Areas of Interest: Software Engineering, AI/ML, Systems