Benjamin Knobloch

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LinkedIn Personal Website

EDUCATION

Cornell University | Ithaca, NY
Master of Engineering in Computer Science **May 2026**
GPA: 4.0 / 4.0

Stevens Institute of Technology | Hoboken, NJ
Bachelor of Engineering in Software Engineering **May 2025**
GPA: 4.0 / 4.0

Select Coursework: Generative AI, Systems for Large-Scale ML, Human Computation, Legal Semantic Systems Research Project, Agile Software Development, DevOps Principles and Practices, Data Mining and Machine Learning, Modeling and Simulation, Software Requirements Analysis and Eng., Web Programming, Data Structures & Algorithms, Database Management

Awards: Tau Beta Pi (top 12.5% of class), Excellence in Undergraduate Research, Stevens Presidential Scholar

SKILLS

Languages: Python, Java, C#, C++, Go, JavaScript / Typescript, Bash & Z Shell, HTML & CSS, SQL & DBML
Libraries and Frameworks: Node.js, Pandas, NumPy, Keras, Flask, Gurobi Optimizer, Tkinter, React Native, Ollama
Tools and Platforms: Unix / Linux CLI, HPC / Slurm workflows, GitHub & Git, Visual Studio Code, Vim, MATLAB + Simulink
Methodologies: Agile, Scrum, Kanban, XP, SAFe

WORK EXPERIENCE

Los Alamos National Laboratory | Los Alamos, NM **May 2024 – Present**
Intern, Applied Computer Science

- Executed a comparative research study on the use of variable embedding selectors in agentic scientific workflows using HuggingFace and OpenAI to improve the accuracy, relevancy, and richness of AI assistants in technical domains
- Designed and built a schema and database platform using DBML and SQLite for conducting research on automated translation of programs from FORTRAN to C++ using Large Language Models (LLMs)
- Constructed a parameterized workflow using Python and Z Shell for ensemble data collection on LLM transpilation spanning input programs, prompt engineering techniques, and evaluation methods
- Generated datasets in a Unix high performance computing environment, and conducted statistical and visual analysis with Pandas, SciPy, and Plotly to determine the feasibility, shortcomings, and measurability of automating code translation

Stevens School of Systems & Enterprises | Hoboken, NJ **Jan 2024 – May 2024**
Teaching Assistant of Object-Oriented Software Engineering course

- Deliver one-on-one support to students on topics of Java object-oriented design and UML

Commvault | Tinton Falls, NJ
Software Developer Intern **Feb 2021 – Jun 2021**

RESEARCH EXPERIENCE

Stevens Institute of Technology | Hoboken, NJ
Pinnacle Scholar Summer Research Assistant **May 2023 – May 2024**

- *Published as "AntiCopyPaster 2.0: Whitebox just-in-time code duplicates extraction" for ICSE 2024 Conference*
- Extended the functionality of AntiCopyPaster, an automatic refactoring tool for the IntelliJ IDE, by writing hundreds of lines of code to extend its user interface and configurability and improve internationalization and data collection

Rabinovitch Research Group | Hoboken, NJ
Pinnacle Scholar Summer Research Assistant **May 2022 – Mar 2023**

- *Published as "Assessing Mercury Landing Site Properties with Messenger High-Resolution Image Data" for 54th Lunar and Planetary Science Conference*
- Implemented Python image analysis on 10 terabytes of high-resolution Mercury images from the MESSENGER spacecraft to identify regions of its surface with optimal properties for a future rover landing from low-resolution global images
- Designed and built an intuitive GUI selection tool utilizing Python and the Tkinter toolkit for use by fellow and future research assistants to efficiently classify Mercury's regions by properties including impact density and mean impact size

Stevens Institute of Technology Research | Hoboken, NJ
Research Assistant **Jun 2022 – Nov 2022**

- Conducted data analysis and algorithmic optimization on Stevens' admissions data by implementing in Python a stochastic gradient descent (SGD) algorithm intended for use in large, tightly constrained models
- Carried out data visualization work in Python and utilized the NumPy and Pandas libraries to employ and analyze performance of the SGD algorithm, ultimately improving performance by several orders of magnitude

LEADERSHIP EXPERIENCE

Engineers Without Borders, SIT Chapter | Hoboken, NJ
Vice President **Sep 2023 – May 2025**

- Advance water access for the rural Q'eros community of Chua Chua, Peru by managing club events, directing the operations of chapter committees and finances with cost & schedule analysis, and running the website and newsletter

The Stute | Hoboken, NJ
News Editor / Staff Writer of student-run newspaper **Sep 2021 – May 2025**