Benjamin Brown

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Education

The University of Michigan - Ann Arbor September 2024 - January 2026
Master of Science in Computer Science *Current GPA: 4.0/4.0*

- Relevant Coursework - EECS 542 Advanced Computer Visison, CSE 587 Parallel Computing, CSE 572 Randomness and Computation

The University of Michigan - Ann Arbor September 2020 - May 2024
Bachelor of Science in Computer Science, Minor in Physics *Current GPA: 3.86/4.0*

- University Honors Winter 2021, Winter 2022, Fall 2022, Winter 2023.
- Relevant Coursework - Physics 260 Honors Physics II, Physics 351 Mathematical Methods of Theoretical Physics, EECS 281 Data Structures and Algorithms, EECS 370 Computer Organization, EECS 376 Foundations of Computer Science, EECS 445 Introduction to Machine Learning, EECS 485 Web Systems, EECS 388 Computer Security, EECS 442 Computer Vision, and EECS 448 Human Centered AI

Skills & Certifications

Languages: Python (expert), C++ (expert), C (proficient), SQL (prior experience), R (prior experience), JavaScript (prior experience)

Libraries: Pandas, NumPy, Matplotlib, TensorFlow, PyTorch, React, Flask, SciKit-Learn, SciPy, Hugging Face

Tools: Git/GitHub, Proxmox, Unix Shell, Node.js, Vim, Docker, AWS

Security Clearance: Interim Secret; pending secret clearance

Work Experience

Software and Signal Processing Intern | Leidos June 2024 - Current

- Research internship, tasked with developing state of the art computer vision deep learning models for synthetic aperture radar data.
- Developed data pipeline for training and testing on field data.
- Improved target detection performance by expanding upon FCOS architecture with aggregate modeling.
- Pushed state of the art performance by introducing complex multi-task learning to existing architecture.

Machine Learning Research Intern | Gentex Corporation May 2023 - March 2024

- Research and development internship, tasked with machine learning engineering and data analysis for chemical detection.
- Analyzed and engineered multiple raw datasets, applied signal processing techniques.
- Investigated various regression techniques.
- Improved model performance by over two times previous efforts.
- Presented results to both technical and non-technical leads.

Researcher | New York University, National Science Foundation July 2022 - September 2022

- Conducted research under Dr. Damon McCoy and the NYU Tandon School of Engineering. National Science Foundation funded.
- Analyzed over 15,500 communications between members of one of the largest Russian cybercrime syndicates, Conti.
- Developed concrete quantitative analysis of the financial inner-workings of the ransomware as a service industry. Performed blockchain analysis using the Crystal Blockchain framework.
- Coauthored research paper for the APWG Symposium on Electronic Crime Research.

Publications

- **Money Over Morals: A Business Analysis of Conti Ransomware**
  Ian W. Gray, Jack Cable, Benjamin Brown, Vlad Cuiujuclu, Damon McCoy
  2022 APWG Symposium on Electronic Crime Research

Project Experience

Image Super-Resolution | *Michigan Data Science Team (Project Lead)* September 2022 - December 2022

- Developed a generative adversarial network trained on photographs for image super-resolution.
- Led a group of 10 student engineers through the development process, and presented findings to a group of peers for review.

Personal

Avid snowboarder, guitarist, and endurance cyclist. Enjoy rock climbing with the Michigan Climbing Club.