Ryan Heise

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Education

Purdue University **GPA: 3.57** **Aug 2020 – Dec 2024**

Bachelor of Science in Computer Science *West Lafayette, IN*

Bachelor of Science in Mathematics

Relevant Coursework

- Data Structures & Algorithms
- Analysis of Algorithms
- Statistical Machine Learning (Graduate)
- Multi-variable Calculus
- Systems Programming
- Discrete Mathematics
- Linear Algebra
- Operating Systems
- Probability
- Classical AI

Experience

CACI | *Software Engineering Intern* **May 2022 – August 2022**

Lisle, IL *Proxmox, Ghidra, PostgreSQL*

- Deployed Linux-based honeypot servers on the internet to collect and analyze information about malicious attackers
- Constructed a data pipeline to process over 100,000,000 captured packets and generate usable feature sets for machine learning applications
- Utilized Linux routing and iptables to construct a sanitized network for analyzing compromised machines

CS252 (Systems Programming) TA | *Undergraduate TA* **January 2023 - May 2023**

West Lafayette, IN *C, C++, LaTeX*

- Led two lab sections, guiding students in implementing advanced C++ projects, including malloc, a standard shell, and a web server, fostering skill development and project success
- Designed effective assignments and exams to enhance student comprehension of course material

Youndle LLC | *Co-Founder* **August 2020 – August 2021**

Valparaiso, IN *Django, React, AWS*

- Engineered a service that streamlined the communication between small businesses and local teenage workers
- Constructed a back-end API using Django REST framework to communicate with the React-based front-end
- In order to deploy the website, it was hosted on an AWS EC2 instance with a PostgreSQL RDS Database
- In the Purdue Boiler 2021 start-up accelerator cohort

Projects

Heiseklearn | *Python, Numpy, Pandas* **December 2023**

- Created a machine learning library to gain a better understanding of how various models work from the ground up
- Provided mathematical derivations that provide a comprehensive understanding of each model
- Proficiently implemented a range of machine learning algorithms, including supervised, unsupervised, reinforcement learning models, and advanced deep learning models

Human Eye for the Robo Guy | *Python, PyTorch* **August 2023**

- Designed and implemented a Generalized Adversarial Network using PyTorch, embarking on an exploration of PyTorch's capabilities and advanced deep learning models
- Utilized a non-saturating loss with the GAN on the Fashion MNIST to create high-quality clothing images

Technical Skills

Languages: Python, C++, JavaScript, C, HTML/CSS, Java, x86 Assembly, PostgresSQL
Technologies/Frameworks: PyTorch, Numpy, Pandas, Django, ReactJS, Unix, AWS, Google Cloud

Awards & Certifications

AWS Partner: Technical Accreditation July 2022

The Boiler Startup Accelerator February 2021 - May 2021

1st Place Purdue Hello World Hackathon (Out of 55 Teams) October 2020