Joseph Vohnoutka

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Portfolio: https://www.jv-portfolio.dev/

EDUCATION

Bachelor of Science in Computer Science   May **2025**
University Of Minnesota - Twin Cities   *Minneapolis, MN*
GPA: **4.0** / 4.0, Dean's List for **4** consecutive semesters
Relevant Coursework: Data Structures, Algorithms, Database Systems, Machine Learning, Artificial Intelligence

SKILLS

Programming Languages: Python, Java, C, C++, C#, JavaScript, HTML, CSS, SQL, OCaml
Frameworks & Libraries: Flask, TensorFlow, PyTorch, Numpy, Stable Baselines 3
Tools & Technologies: Docker, Git, PostgreSQL, ONNX, Machine Learning Algorithms

PROJECT EXPERIENCE

Snake AI | *Python, JavaScript, HTML*   Spring 2024
Personal Project
- Developed an **AI-powered** snake using **Proximal Policy Optimization (PPO)** reinforcement learning in **Stable Baselines 3** which runs in **milliseconds**.
- Trained the snake on over **300** game boards of varying sizes and incorporated **8** factors in the model's decision-making process.
- Converted the model from **Stable Baselines 3** and **PyTorch** to a **JavaScript web runtime environment** with **ONNX** for a more user-friendly experience.
- Created an interactive in-browser experience with **11** customizable features including changing the snake's color, placing apples in specific locations, and adjusting the snake's speed.

Recipe Collector | *Python*   Summer 2023
Personal Project
- Built a **cloud-based** program that allows users to create and save recipes, ingredients, and their costs, managing a database of **100+** recipes and ingredients.
- Utilized **Flask framework** in **Python** to build an **API** and **PostgreSQL** server to store data, capable of handling up to **1,000** API requests per day.
- Implemented **secure login** functionality with a temporary user account that allows editing sample data.

Chess | *Java*   Spring 2023
CSCI 1933: Introduction to Algorithms and Data Structures
- Constructed a **Java** console application that simulates chess gameplay using **OOP** concepts and design patterns.
- Programmed **10 classes** and **objects** to model the chess components and enforce the game rules.
- Utilized **arrays** and **linked lists** to efficiently store and access the game data.

Aim Labs Bot | *C#*   Summer 2022
Personal Project
- Automated Aim Labs's challenges using **image processing** and mouse control libraries to aim and click targets.
- Achieved **inhuman scores** and accuracy by optimizing the bot's performance and parameters such as sensitivity, delay, and threshold, resulting in a **50%** increase in accuracy and a **40%** improvement in overall performance.

WORK EXPERIENCE

IT   Aug. 2023 – Present
Carlson School of Management, University of Minnesota   *Minneapolis, MN*
- Resolve over **50** technical support requests monthly, ensuring optimal computer, software, and network performance for nearly **5,000** users.
- Oversee AV systems across **40+** rooms, maintaining flawless in-person and Zoom meeting functionality.
- Collaborate with **50+** IT staff, **200** faculty, and **2** IT departments to diagnose and resolve complex classroom technology issues, fostering a strong team-oriented support approach.

Advisor   Feb. 2022 – Jan. 2023
Best Buy   *Shakopee, MN*
- Provided exceptional customer service and tailored solutions, resulting in an **83%** customer satisfaction rate.
- Consistently exceeded sales targets by activating an average of **5+** phones daily, in addition to other products.
- Proactively identified opportunities to improve store operations and **collaborated** with coworkers to implement solutions, fostering a positive and efficient work environment.