Evan Pochtar

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Education

University of Minnesota – College of Science and Engineering **September 2022 - May 2024**
Bachelor of Science, Computer Science | GPA: 3.9/4.0 *Twin Cities, MN*

- **Details:** Started as PSEO from September 2020 – May 2022
- **Awards:** Dean's List from 2020-2024, Presidential Academic Scholarship, Graduated with High Distinction

University of Minnesota – College of Science and Engineering **September 2024 - May 2025**
Master of Science, Computer Science | GPA: 4.0/4.0 *Twin Cities, MN*

- **Details:** Focus on Machine Learning, AI Engineering, Deep Learning, and Software Engineering.

Experience

Synchrono - Manufacturing Software **May – August 2024**
Software Engineer Intern | C#, ASPX, Typescript, VueJS, SQL, Azure, PowerShell, Python, Agile, Scrum *Edina, MN*

- Engineered a Genetic Algorithm to enhance scheduling operations in an industrial context, effectively managing complex data-driven constraints such as parent child relationships.
- Created detailed unit testing while developing, ensuring correct solutions and detailed error handling.
- Developed and maintained automated testing solutions for both webpage and backend systems using TypeScript.
- Designed and participated in the creation of database schema to efficiently retrieve data using SQL Server.

Synchrono - Manufacturing Software **May – August 2023**
Software Engineer Intern | C#, ASPX, Typescript, VueJS, SQL, MongoDB, Visual Basic, Agile, Scrum *Edina, MN*

- Worked on updating and maintaining legacy code in a large project, ensuring both code correctness and consistency.
- Created and maintained JavaScript frontend automated tests using TestCafe to ensure correct functionality.
- Developed new pages using a full-stack agile process, complete with testing, security, and design.

Abbey Care **September 2021 – Present**
Personal Care Assistant (Part-time) *Eagan, MN*

- Provided part-time care and assistance to elderly patients, supporting daily living and health monitoring needs.

Projects

Handwritten Math to LaTeX Recognition System **March 2025 – May 2025**
Python / NumPy / Pandas / OpenCV / Pytorch / LLMs / Natural Language Processing / Computer Vision / AI Engineering

- Achieved 85.59% accuracy in converting handwritten mathematical expressions to syntactically correct LaTeX code using a hybrid deep learning approach, with further improvement to 86.22% through LLM post-processing.
- Fine-tuned Phi-4-mini LLM using GRPO as well as a ResNet-34 based CNN encoder across 4 NVIDIA A40 GPUs.
- Established robust evaluation frameworks using multiple metrics including RapidFuzz ratio, BLEU scores, and BERTScore to comprehensively assess both syntactic and semantic correctness.

Calculating Depth with Optimized Sparse Imaging Neural Radiance Fields **October 2024 – December 2024**
Python / Pytorch / NumPy / OpenCV / TensorFlow / Computer Vision / AI Engineering

- Developed a Neural Radiance Field model in PyTorch to create a 3D model from a small collection of 2D images.
- Accelerated processing by 540% through algorithm optimization and performance tuning with detailed testing.
- Created automated dataset generation workflow using Blender Python API (bpy) and custom scripts to produce 400-image synthetic datasets with corresponding ground-truth depth information.

Gene Network Analysis of Age-Associated Disorders **February 2024 – May 2024**
R / Python / HTML / JavaScript / NetworkX / Scikit-Learn / Machine Learning Engineering / Data Analysis

- Engineered a machine learning pipeline in R/Python to analyze RNA-seq data from 3,000+ samples, implementing regression models that identified 566 significant age-associated gene sets linked to disease phenotypes.
- Developed an interactive network visualization system using HTML and JavaScript graph network that enables exploration of disease-gene relationships and highlights potential therapeutic targets.

Skills & Interests

Backend Skills: Python, R, Java, C, C++, Rust, C#, Git, Typescript, Javascript, Pytorch, OpenCV, and Scikit-Learn.
Frontend Skills: Svelte, Flask, EmberJS, ReactJS, Vue.JS, HTML5, CSS, Tailwind CSS, Figma, and Playwright.
Database Systems: SQL Server, Firebase, PostgreSQL, and SQLite.
Languages: English (native) and Russian (conversational). Experience with Technical Writing.