Jackson Hall

jacksonthall22@gmail.com • (802) 356-4622
Burlington, Vermont • github.com/jacksonthall22 • linkedin.com/in/jackson-t-hall

Machine Learning Engineer / Data Scientist

I am an analytical, quick learner with an acute attention to detail and an eye for design. In past roles, I have demonstrated an expert command of Python, earned through 12+ years of experience across personal and professional projects. I have a strong interest in AI/ML system design theory as it relates to neuroscience and human thought patterns. I enjoy competitive chess, and my goal is to achieve a USCF rating of 2000 ELO by 2025.

EDUCATION

B.S. in Computer Science

University of Vermont Honors College • Burlington, VT • Sep 2018 – Mar 2022
Honors Thesis: https://tinyurl.com/ICSFramework

SKILLS

Git, Python, Jupyter, PyTorch, TensorFlow, Pandas, Numpy, Matplotlib, AI/ML system design, Deep learning dynamics and generalization, Embedding spaces, GPT models, C++, Java, TypeScript, Vue, Shopify/Liquid, SQL/NoSQL, Spanish, Chess

WORK EXPERIENCE

Dynamic Organics • Full–time

Machine Learning Engineer **Jan 2023 - Apr 2023**

- Researched and implemented state-of-the-art machine learning algorithms for multivariate time-series forecasting and hierarchical reconciliation of forecasts
- Implemented a deep learning model that improved validation Mean Absolute Percentage Error (MAPE) by over three percentage points (from 5% to 1.5%) compared to the model in production
- Cleaned and organized data from a large-scale time-series database (~5 TB) using Python
- Designed a custom machine learning model architecture and training procedure to leverage several related datasets, some with a time-series structure, and others with graphical or hierarchical structures
- Presented research findings with an action plan for implementing new models in production, including recommendations for further research and improvement

Aimchess.com • Full-time

Senior Python Developer **May 2021 - Nov 2022**

- Collaborated directly with the CEO for two summers to develop API endpoints for new product features
- Designed and optimized chess-specific data structures and graph search algorithms to extract metrics on hundreds of thousands of chess games while balancing constraints like accuracy, understandability, runtime, and compute cost

UVM Department of Computer Science • Part-time

Teaching assistant for CS 021 - Computer Programming I (Python) **Jan 2019 - May 2019**

- Graded weekly homework assignments for 15–20 students
- Designed "Challenge Problems" for students that finished labs early, testing for a deeper understanding of programming concepts, such as recursion, OOP, data structures, etc.