Jackson Hall

[jacksonthall22@gmail.com](mailto:jacksonthall22@gmail.com) **•** (802) 356-4622

Burlington, Vermont **•** [github.com/jacksonthall22](https://github.com/jacksonthall22) **•** [linkedin.com/in/jackson-t-hall](https://www.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.