

Matthew Jackson

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OBJECTIVE

A position in Systems Software and/or Cloud Software focusing on designing, implementing, or maintaining sophisticated, efficient, and reliable Computer Systems

EDUCATION

Virginia Polytechnic Institute & State University (Virginia Tech), Blacksburg, Virginia
M.S. Computer Science, Expected May 2023, Advisors: Dr. Nikolopoulos & Dr. Ji
B.S. Computer Science; Math & Geography Minors, May 2021, **Cum Laude**

RELATED EXPERIENCE

Graduate Thesis Research, Aug 2021-present

Topic: *Real-time Machine Learning Inference in Edge Systems*

Research Group: '**PEARL**: Performance and Resiliency Lab', Head: Dr. Dimitrios Nikolopoulos

- Developing, analyzing, and optimizing a ML inference system where computationally limited data-source machines can efficiently offload tasks to a local or remote server for better inference throughput and latency
- Experience developing software systems distributed across heterogeneous machines using modern machine learning frameworks, data, and models
- Adapting to constraints like real-time data, computation & network bottlenecks, and uncommon system architectures

Graduate Machine Learning Project, Spring 2022

Topic: *Training AI agents to play board games*

- Lead a team of CS & CPE students to design, implement, train & evaluate AI agents to play board games like Connect4 and Tic-Tac-Toe
- Used a simplified AlphaZero method to train agents using 'self play' and compared the performance of several different DNN architectures
- Managed complications including inefficient implementations and multi-day training times

Senior Capstone Project, Spring 2021, Domain: Computer Systems

Topic: *Designing an energy monitoring and reporting tool for cloud applications*

- Worked in a diverse team of students on a fast-paced & multifaceted project
- Developed a full-stack solution using numerous programming languages & frameworks
- Took lead of the system design which was deployed on multiple AWS nodes
- Presented project to professors and industry experts

Undergraduate Research, Fall 2019

Computer Science Dept., Virginia Tech, Blacksburg, VA

- Developed a more efficient implementation of a new approximation algorithm for Optimal Transport in the Graph Theory domain
- Worked in a small team to meet expectations and deadlines

OTHER EXPERIENCE

Summer Research Assistant working on 5G ORAN technology – Summer 2021

Designed Discord Bot to support small video game tournament – 2021

Shift Leader, Robeks Smoothies, McLean, VA 2019-2020

COMPUTER SKILLS (Please explore my personal website for more: mnj98.github.io)

Linux: Bash, Make, ssh, git, etc.

Software: Docker, KVM, Spark, Tensorflow, OpenCV, etc.

Programming: C, C#, Java, Python, JavaScript, etc.

ACTIVITIES & HONORS

Innova Honor Cord Award (for blood donation >1 gallon) – 2017

Treasurer for Chocolate Milk Monday Club at VT – 2019-2021

Member of band "The Noodle" – 2019-2021

Musician, Guitar & Bass – 2016-present

Video Games & Building Computers – 2012-present