TRISTAN PEAT

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY, College of Computing — **Atlanta, Georgia**
Master of Science in Computer Science, Machine Learning — *May 2025*
Bachelor of Science in Computer Science — *May 2024*
- Concentrations: Artificial Intelligence and Distributed Systems   GPA: 3.82

TECHNICAL SUMMARY

- **Languages:** Python – expert, SQL, Apache Spark, Java, C, JavaScript, scripting
- **Models:** ViT for Depth Estimation, YOLO, DeAOT, Segment Anything, GAN, BERT, Llama2, UNet, InceptionNet
- **Software:** Git, Pytorch, Tensorflow, JIRA, AWS, Jupyter, Slurm, Apache Airflow, GDB, Vim

EXPERIENCE

GEORGIA TECH RESEARCH INSTITUTE, Performance Optimization Team — **Atlanta, Georgia**
Machine Learning Research Assistant — *January 2023 – Present*
- Implemented a self-supervised monocular depth estimation model using a simplified vision transformer (ViT)
- Programmed an evaluation script that bins model errors on KITTI and a custom dataset at each depth range
- Developed a Neural Architecture Search (NAS) evolutionary framework to optimize the components of the ViT
- Led the design of a Pytorch dataloader that pulls videos from AWS and creates masks using the "Segment Anything" model
- Built a reinforcement learning agent that uses a transformer based Deep Q-Network for pixel-wise object tracking

ZILLOW GROUP, Artificial Intelligence Division — **Remote**
Software Development Engineer Intern — *May 2023 – August 2023*
- Designed and implemented a data pipeline in Python, SQL, and Spark to report digital traffic to Wall Street stakeholders
- Calibrated user and session traffic with auto anomaly detection from Google Analytics API to an in-house clickstream
- Transformed petabytes of data from raw input to a presentable format using multithreaded Spark jobs executed on AWS
- Performed statistical analysis on data source migration and summarized findings in discussions with stakeholders

DELTA AIR LINES, Simulator Support Team — **Atlanta, Georgia**
Simulator Engineer Co-Op — *May 2022 – August 2022*
- Programmed C and shell scripts to automate flight simulator software updates to reduce man–hour cost and human error
- Debugged C and FORTRAN programs implemented using real-time simulation on Unix-based platforms

HALO COLLAR — **Remote**
Software Engineering Intern (part–time) — *May 2022 – August 2022*
- Collected, labeled, and transformed raw data into a model input vector using noise filters and PCA feature selection
- Tuned and trained a multi-class ML activity classifier with 83% accuracy using Python's scikit-learn
- Converted sliding window time-series preprocessing code and classifier to C to be embedded into a microcontroller

GEORGIA INSTITUTE OF TECHNOLOGY, College of Computing — **Atlanta, Georgia**
Head Undergraduate Teaching Assistant (part–time) — *May 2021 – May 2022*
Undergraduate Teaching Assistant (part–time) — *January 2021 – May 2021*
- Managed seven Teaching Assistants for an introductory Python course
- Wrote and organized lectures, assignments, and exams on data manipulation, I/O, and Big O for 200+ students

PROJECTS

ZILLOW GROUP, Hackathon 2nd Place Winner — **Seattle, Washington**
Internal Resource LLM SlackBot — *July 2023*
- Conducted prompt engineering and LLM chain experiments to statistically find the optimal question-answering algorithm that allows users to interact with Zillow's internal documentation, Gitlab, and Slack threads

GEORGIA INSTITUTE OF TECHNOLOGY, Vertically Integrated Project — **Atlanta, Georgia**
Automated Algorithm Design, Stocks Team — *August 2022 – Present*
- Implemented a Deep RL model for Portfolio Optimization with a custom loss function based on the Sharpe Ratio
- Expanded the capabilities of the NAS branch of the open-source Evolutionary Multi-objective Algorithm Design Engine (EMADE) codebase to support the evolution of unsupervised RL models, inception nets, and RNN modules