Alexander Yoon

ayoon37@gatech.edu | (470) 428-1484 | https://www.linkedin.com/in/alexander-yoon/ | https://github.com/XanderYoon

EDUCATION

Georgia Institute of Technology — ***Atlanta, Georgia***

Master of Science in Computer Science: Machine Learning — *May 2026*

Bachelor of Science in Computer Science | GPA: *3.81/4.0* — *May 2025*

- Relevant Coursework: Data Structures & Algorithms, Artificial Intelligence, Systems and Design, Machine Learning, Design & Analysis of Algorithms, Probability & Statistics, Objects & Design, Object-Orientated Programming
- Involvements: Boxing Club, Big Data Big Impact, Wreck Camp, Hackathons, Delta Chi Fraternity, ROTC

SKILLS

Python (NumPy, Pandas, sklearn, TensorFlow, Pytorch, Seaborn, Matplolib, plotly, BeautifulSoup, NLTK), C, Java (Android Studio, JUnit), SQL (MySQL, SQLite), AWS (EC2, S3, RDS, CloudFormation), Tableau, Git, Linux (Ubuntu, Bash), Slack, Agile (Scrum)

EXPERIENCE

GEORGIA TECH, ENVIRONMENTAL SCIENCES DEPARTMENT — Atlanta, GA

Undergraduate Researcher — ***April 2024 – Present***

- Developed deep learning regression models with TensorFlow and Pytorch to predict damages to coastal and inland properties.
- Deployed Microsoft Azure high-performance clusters to enhance the training, tuning, and prediction capabilities.
- Contributed to a successful research grant proposal by estimating computing costs and training machine learning models, securing $50,000 in funding.
- Designed a choropleth map visualizing the 90th percentile of hurricane damages for each county on the east coast.
- Created teaching materials for advanced Environmental and Atmospheric Sciences (EAS) courses, covering various machine learning models and data transformation techniques.

GEORGIA TECH, EDX LINEAR ALGEBRA — Atlanta, GA

Curriculum Developer — ***January 2023 – Present***

- Developed additional practice quizzes with comprehensive solutions, significantly enhancing student learning experiences.
- Created interactive applets to visualize linear algebra concepts, enabling students to engage with and better understand key topics.
- Managed class question forums, providing support and guidance to over 4,000 enrolled students.
- Designed introductory coding assignments, helping students apply linear algebra concepts with Python.

GEORGIA TECH, MEDFORD RESEARCH LAB — Atlanta, GA

Undergraduate Researcher — ***August 2023 – December 2023***

- Effectively utilized Linux on Georgia Tech's supercomputer infrastructure to process and analyze high-dimensional datasets of up to 200 features.
- Implemented LASSO and L1 regularization to perform dimensionality reduction on infrared spectrum data for ethanol analysis which allowed for our LDA model to converge

PROJECTS

ART VALUATION PREDICTION | *Python, BeatufiulSoup, Node.js, Catboost* — ***January 2024***

- Web scraped over 30 art market articles spanning a decade, and applied sentiment analysis which provided additional features to enrich our model's training data.
- Utilized polynomial regression techniques to generate predictive trend-lines for art piece market prices, ensuring model accuracy by mitigating overfitting and underfitting.
- Implemented a gradient boosting model to estimate current valuations, achieving a remarkable Root Mean Square Error (RMSE) of 0.07 despite working with a limited dataset.

MACHINE LEARNING SOCCER PREDICTION | *Python, sklearn, PyTorch, NumPy, Matplotlib* — ***August – December 2023***

- Worked on a team of 5 to build and train logistic regression, random forest, and artificial neural network models using Scikit-Learn and PyTorch to predict soccer match outcomes with 70% accuracy, beating benchmark betting odds data by 8%.
- Developed feature engineering strategies, performed dimensionality reduction, and conducted hyperparameter tuning to reduce overfitting, improving model accuracy by ∼10%.

FTX PERFORMANCE ANALYSIS | *Excel, Pandas, Seaborn, Matplotlib, Jupyter Notebook* — ***August 2022***

- Utilized Python's Pandas library to efficiently process and format Battalion performance data collected during the Field Training Exercise (FTX).
- Conducted thorough data analysis, uncovering notable grading bias among particular instructors towards specific markers.
- Leveraged Seaborn and Matplotlib to create compelling data visualizations, facilitating the presentation and validation of research findings.