Blaine Hill

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EDUCATION

The University of Illinois at Urbana-Champaign
August 2022 - Present

Master of Science in Computer Science
4.0 Cumulative GPA, May 2024 Expected Graduation

The University of North Carolina at Chapel Hill
August 2019 - May 2022

Bachelor of Science in Computer Science, Bachelor of Science in Statistics
3.8 Cumulative GPA

EXPERIENCE

Capital One
May 2022 - August 2022

Software Engineer Intern, Customer Experience Team
Constructed an end-to-end sentiment analysis pipeline for managing real-time customer feedback; allows instant experience rectification through customer feedback, improving proprietary satisfaction index by 68%.
Implemented a state-of-the-art Transformer AI model with Python: roBERTa-Large with Self-Explaining.
Deployed pipeline on Amazon Web Services with SQS, Lambda, and DynamoDB microservices.

IQVIA
May 2021 - August 2021

Artificial Intelligence Intern, Internal Vendors Team
Designed an invoice parser to automate information extraction through modeling in Python, saving over $2.5M annually.
Utilized the PyTesseract library for optical character recognition of invoices.
Implemented a graph convolutional neural network to incorporate both spatial and semantic information.

PROJECTS

Arcane
Constructed a web application employing Spotify user data to generate unique personalized discographies; increases listening sessions by over 2 hours on average.
Utilized the React, Express.js, and Node.js stacks as well as the Spotify Web API.
Programmed in JavaScript, HTML and styled with the Tailwind CSS and Bootstrap frameworks

Melanoma Classification
Compared the efficacy of a Logistic Regression model and Convolutional Neural Network to classify skin cell images as malignant or benign with UNC Hospitals' patient data; obtained 87% accuracy.
Transformed data with rotations and flips to augment training dataset.
Written in Python, utilizing the PyTorch package for fluidity.

RESEARCH

Explainability of Graph Neural Networks
August 2022 - Present

Dr. Hanghang Tong, Department of Computer Science, UIUC
Currently researching nascent extensions of graph neural networks (GNNs), especially furthering the fusion of GNNs alongside reinforcement learning (RL) techniques to solve various tasks such as knowledge graph completion, policy optimization over graphically structured data, and more.

Active Feature Acquisition Modeling and Analytics
August 2021 - May 2022

Dr. Junier Oliva, Department of Computer Science, UNC-CH
Researched RL with Active Feature Acquiring surrogate models to both optimize decision policies from features throughout training.

HONORS / AWARDS

3rd Place 2019 Pokemon Trading Card Game World Championship
August 2019

Was invited to compete after the 2018-2019 tournament circuit.
Finished as the best placing American in the 2019 season.

SKILLS

Languages
Python, R, C++, C, Java, JavaScript, HTML, SQL

Tools / Frameworks
AWS, Git, Snowflake, Keras, Tensorflow, pandas, NumPy, nltk, scikit-learn, React, Node.js, Express.js, MySQL, MongoDB, Material-UI, Tailwind CSS