Mingyang(Jerry) Li

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EDUCATION

Davidson College, *Davidson, NC* Graduation date: Dec 2024

Degree: Bachelor of Science in Computer Science, Bachelor of Science in Mathematic Major GPA: 4.0 / 4.0

Relevant Coursework: *Algorithm, Computer Organization, Data Structures, Data Science I, Game Development, Abstract Algebra, Calculus, Number Theory, Discrete Structure, Differential Equations, Linear Algebra*

Work Experience

Facility for Rare Isotope Beams (FRIB), Davidson, NC May 2022 – Aug 2022

Machine Learning Researcher

- Conducted **machine learning research** in the area of computational **nuclear physics** as a part of the Davidson Algorithms for Learning in Physics Applications (ALPhA) research group in partnership with the Facility for Rare Isotope Beams (FRIB)
- Cleaned and analyzed raw data from NSCL's Active-target time projection chamber using **Python** Packages (**Matplotlib, Numpy, Pandas**)
- Built a **PointNet++ deep learning network** with **TensorFlow** to classify alpha-proton events from a multitude of nuclear reactions and trained noise rejection model for the AT-TPC simulated and experimental data. Achieved a **90%** improvement of the model's f-1 score from the model the team built in summer 2021
- Visualized track predictions of AT-TPC experimental data in 3D graphs using **Matplotlib**
- Working on **paper** publication, abstract can be found here: Abstract

Advanced Skills: Python, Machine Learning (Deep Learning), Data Cleaning, Data Visualization, Tensorflow, Jupyter Notebook

Tecoford Guangzhou, Remote Aug 2022 – Present

Engineer Intern

- Built random forest **machine learning** models in **python** to analyze and control the column of steam in the cut-tobacco dryer
- Built **multivariable differential equation models** to predict the volume, temperature, and humidity of the tobacco in the real tobacco manufacturing line, improving the efficiency.
- Used AVEVA APC (Advance Process Control) system to automatically control the tobacco production rate.

Advanced Skills: Java, Machine Learning, Python, Mathematical Modeling, Problem Solving, Industrial Automation

Competitive Coding at Davidson (C-CAD), Davidson, NC Jan 2022 – Present

Co-Lead of Professional Development

- Participated in hackathons, and won the best use of the **Auth0 API** award in VTHack IX
- Organized and participated in computer science workshops about frontend development, internships and interview practices

Advanced Skills: Frontend Development, Algorithms, React.js, HTML, CSS, Javascript

PROJECTS

Rate My Professor Chrome Extension (*Skills: Javascript, HTML, API*) - GitHub

- Created Chrome extension that efficiently shows professor rating and comments while searching for classes.
- Fetched professor data from Rate My Professor by making **graphql queries** to its **API** and appended the results to extension's popup window.

Turn-based Government Simulator Game Using Unity Engine (*Skills: C#, Unity, UI/UX design*) - GitHub

- Bee the Change is a turn-based government simulator game in which you are a bee politician trying to be reelected during the environmental collapse of the world
- Designed and developed the core mechanism and turn-based system of the game using C# and Unity Engine
- Used **Unity Engine** to create the **UI/UX design** of the game and effectively incorporate the art elements

Social Banking Website Using React.js|Hackathon (*Skills: React.js, HTML, CSS, Javascript*) - GitHub

- Built the profile page with **React.js**, allowing users to create mock saving accounts and see their spending curves
- Effectively implemented **Capital One APIs** which include virtual users' information like monthly balance and current savings
- Created **UI design** including graphs, fonts, and palettes with UI tools like **React Material-UI library** and **Coolors**

TECH SKILLS

Programming Language: Java, Python, C, C#, R, HTML, CSS, JavaScript
Tools and Framework: Tensorflow, Scikit-learn, Matplotlib, Numpy, Pandas, React.js, Graphql, LaTeX
Software and System: Unity, Jupyter Notebook, Chrome, Linux