**Muhammad Abdullah Goher**

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**EDUCATION**

**University of Pennsylvania**, School of Engineering and Applied Science  **Philadelphia, PA**

Bachelor of Science in Engineering in Computer Science  **May 2027**

**Concentration**: Artificial Intelligence **GPA: 3.69**

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**TECHNICAL SKILLS**

**Programming:** Java, C#, OCaml, C, JavaScript, Python, Git/GitHub

**Tools & Frameworks:** MERN stack**,**Scikit Learning, Pandas, Numpy, PyTorch, matplotlib, xgboost, SQL, Matplotlib, Spark

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**RELEVANT COURSEWORK**

Data Structures and Algorithms, Big Data Analytics, Computational Mathematics, Multivariable Calculus, Computer Systems **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**PROFESSIONAL EXPERIENCE**

**Children Hospital of Philadelphia Philadelphia, PA**

*Front-end Developer* ***11/2024 - Present***

* Collaborated in a team of 8 people on the development of a web-based data organization platform for autism research, leveraging MERN stack and FastAPI to enhance data management and accessibility
* Designed and optimized user interfaces using react-redux and tailwind, including a responsive dashboard and data entry forms (editing, deleting, and new entries) to streamline workflows for researchers and clinicians
* Implemented a secure login system using JSON Web Tokens (JWT) for authentication and state management fetching personalized data for that specific user

**Penn Assistive Devices and Prosthetic Technologies Philadelphia, PA**

*Machine Learning Engineer* ***09/2024 - Present***

* Collaborated in a team of 6 people to develop a computer vision model for detecting and identifying surgical tools in real-time during procedures, aiming to enhance surgical precision and safety
* Trained deep CNN and Vision transformer model using PyTorch on Kaggle and GitHub datasets with over 10,000 images
* Fine-tuned model weights through iterative training and optimization techniques, achieving 90% accuracy in detecting and classifying surgical tools across varying angles

**Clab AI Hybrid**

*Machine Learning Engineer* *Intern* ***05/2024 - 08/2024***

* Contributed to the development of an AI platform aimed at assisting students with their university applications, used by 100+ students
* Performed exploratory data analysis on data from over 100 universities using Pandas, NumPy, and Matplotlib to identify trends in financial aid distribution and accessibility
* Trained Random Forest and Linear Regression models to predict financial aid eligibility for incoming students, from the analyzed and cleaned data with hyperparameter tuning and optimization

**UPenn Game Development and Research Club Philadelphia, PA** *Developer*  ***08/2023 - 10/2024***

* Designed team collaborative 2D and 3D games in Unity Game Engine using C# publishing them up on itch.o
* Crafted more than 50 interactive UIs including main menus and real time statistics tracking for performance analysis
* Implemented 3D physics and mechanics such as gravity simulations, object collisions, instantiation, dynamic lighting

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**PROJECTS**

**Full Stack Job Tracker**

* Designed and developed a Job Application Tracker using React, Firebase, and Firestore for managing user-specific job
* Implemented secure user authentication with Firebase Auth and dynamic job storage in Firestore sub-collections
* Created a responsive, user-friendly interface with modular components for adding, viewing, and managing job listings
* Integrated state-based navigation and real-time data retrieval to enhance application usability and performance

**Steam Data Analysis and Visualization Project**

* Collaborated on a group project analyzing a Steam dataset with over 12 million records and details of 90,000+ games to predict game success rate before it is released
* Conducted data cleaning and preprocessing with Pandas and DuckDB SQL, addressing missing values, inconsistent formats, and outliers to prepare data for analysis
* Trained machine learning models, including xgboost and Random Forest with hyper parameter tuning for predicting game success with over 85% accuracy