

Muhammad Abdullah Goher

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EDUCATION

University of Pennsylvania, School of Engineering and Applied Science
Bachelor of Science in Engineering in Computer Science
Concentration: Artificial Intelligence

Philadelphia, PA
May 2027
GPA: 3.69

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

RELEVANT COURSEWORK

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

PROFESSIONAL EXPERIENCE

Children Hospital of Philadelphia

Front-end Developer

Philadelphia, PA
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 , 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

Machine Learning Engineer

Philadelphia, PA
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

Machine Learning Engineer Intern

Hybrid
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

Developer

Philadelphia, PA
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

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