

Dewayne Barnes

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EDUCATION

University of Pennsylvania

B.S.E. in Computer Science

Philadelphia, PA

May 2025

Relevant Coursework: Artificial Intelligence, Machine Learning, Big Data Analytics, Cloud Computing, Statistics, Distributed Systems, Data Structures and Algorithms, Embedded Systems, Database Systems.

EXPERIENCE

Google LLC | Google STEP Intern

May 2023 – Aug 2023

- Worked to integrate the Web OTP API into the Firebase SDK using Typescript and NodeJS
- Learned about development cycles and integrating code into large multiuser codebases

Mack Institute of Innovation (UPenn) | Developer

April 2024 – Present

- Used semantic analysis and existing medical datasets to run comparison on a new invention against existing ones
- Used Swift to deploy on Mac and python for the Windows distribution

Leadership

Penn Architects | Board Member

Aug 2023 – Present

- Organized hardware procurement for PennApps and smaller Penn hackathons
- Allocate various electrical components for projects and ventures student groups are creating around Penn

Penn Billiards League | President and Founder

Dec 2021 – Present

- Set up events and started a campaign to make an inter-collegiate billiards league between Penn and Drexel
- Hosted tournaments with prize money with assistance from Penn's administration

PROJECTS

Talk to Drone | Python, Pytorch

Nov 2024 – Present

- Used several foundational models to develop a drone that follows commands from unstructured speech
- Integrated machine vision techniques to allow the drone to autonomously navigate toward objects and people

Autonomous car driving around a track | Python, Pytorch

Aug 2024 – Dec 2024

- Worked with the transformer architecture to train a car to move around a track and iteratively the optimal path
- Implemented Actor-Critic reinforcement learning to reduce the empirical loss

Analyzing crime patterns in LA | MySQL, Python, Pytorch, Colab, Matplotlib

Mar 2024 – May 2024

- Processed and cleaned a dataset of over 1 million crimes in LA to determine find novel patterns and corollary trends
- Created Visualizations to more easily parse and draw conclusion from the data as well as present in front of an audience

PennOS | C, Linux

Oct 2023 – Dec 2023

- Designed and implemented a UNIX-like operating system, with robust support for system calls and integrated shell built-ins.
- Created a custom FAT for file management and a round-robin scheduler for efficient process handling.

Pennstagram | DynamoDB, Typescript, React, NodeJS, ExpressJS, EC2, S3

Mar 2024 – May 2024

- Developed a cloud based, full stack clone of Instagram with a real time chat, posts, and following ability.
- Implemented a recommendation algorithm by analyzing users likes and followers

Risky Business | React, S3, JavaScript, Python, Pandas firebase

Aug 2024 – Present

- Built a cloud native site to scrape live betting odds and find arbitrage opportunities as a way of getting guaranteed money.
- Developed a predictive RNN model trained on previous odds and outcomes to give users better than guessing returns.

SKILLS

Languages: Python, Java, R, TypeScript, C, C++, VueJS, Swift

Other: PyTorch, Pandas, NumPy, Scikit-Learn, Spark, DynamoDB, Neo4j, Node.js, React.js, Git, AWS, Azure, DevOps, Docker