Kevin Durand

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EDUCATION

Columbia University, The Fu Foundation School of Engineering and Applied Science New York, NY
Bachelor of Science - Major: Computer Science, GPA: 3.8 Sept 2022-May 2026

WORK EXPERIENCE

Columbia Computer Science Department New York, NY
Student Teaching Assistant September 2025 - Present
- Assisted in teaching Advanced Programming in the C programming language
- Held weekly office hours to support students in understanding the course material
- Collaborated with professor and other TA to grade and review coursework

Voloridge Investment Management Jupiter, FL
Research Software Engineer Intern June 2025 - August 2025
- Develop new features and enhanced legacy functionality of the existing quantitative finance algorithms
- Optimize existing C++ algorithms in through performance analysis and benchmarking to improve runtime performance
- Researched new algorithms to refactor existing codebase features to improve scalability and reduce tech debt

Columbia History Lab New York, NY
Student researcher September 2024 - May 2025
- Created graph based database from 127 years of US diplomatic relations, extracting relationship triplets and linking metadata
- Implemented RAG model to retrieve information from knowledge graph implemented in Neo4j and Python
- Implemented user interface for access to AI model pipeline.

RESEARCH EXPERIENCE

DAPLab New York, NY
Postgres Forking June 2025- Present
- Implemented database level forking mechanism in Postgres to allow for virtual copies of a live database
- Extended SQL interface for managing database forks for driver agnostic usage
- Developed light-weight Copy-on-Write storage model for forked databases, allowing full read/write semantics

RELEVANT PROJECT EXPERIENCE

RootDB New York, NY
Project Lead January 2025- May 2025
- Created open-source embedded relational database following standard SQL specification
- Implemented database built for concurrency and ease of use from scratch in golang
- Led project, organizing team meetings, and distributed tasks for contributors to work on

EXTRACURRICULAR

Columbia Space Initiative New York, NY
Member September 2022 – Present
- Developed autonomous sampling vehicle to monitor and mitigate algae blooms in bodies of water
- Implemented animal detection using computer vision models like YOLO for collision avoidance
- Created storage/analytical service for sensor data using databases and authorization

Columbia Robotics New York, NY
Member September 2022 – Present
- Designed autonomous robot to navigate maze using NEAT-AI learning algorithm
- Utilized machine learning algorithms for pathfinding in real time, such as Deep Q-learning
- Developed obstacle avoidance algorithm using onboard sensors from the robot

SKILLS

Programming Languages: C/C++, Python, Golang, Javascript, C#, Java, SQL, Haskell, Ocaml
Software Tools: Git, Docker, Database engines (ie. MYSQL, Postgres), Neo4j, FastAPI
Interests: Cooking, Running, Reading, Gaming