

David Hu

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EDUCATION

University of Virginia

Bachelor's in Computer Science and Statistics, Minor in Business

Charlottesville, VA

Sep. 2022 – June 2026

- Relevant Coursework: Data Structures & Algorithms, Machine Learning, Probability Theory, Financial Analytics

EXPERIENCE

AI Developer Intern

American Chemical Society (acs.org)

May 2024 – Aug. 2024

Washington, D.C.

- Developed a machine learning pipeline for journal classification. Implemented text preprocessing, LDA topic modeling, and visualization, leading to a 30% improvement in document topic insights. Trained BERTopic LLM to categorize manuscript enhancing categorization efficiency by 25%.
- Created an AI script in Python to extract research funder information from publications. Used the spaCy LLM with regex to isolate funder and grant information. The script reduced manual data entry time by 40%, enhanced data management accuracy in classifying future funders, and helped connect researchers to 1000+ new funders.
- Automated API data extraction to improve article search relevance. Processed and managed data with Docker, SQL (PostgreSQL), Microsoft Azure, and Doccano. This new method cut researcher data retrieval time by 50% and streamlined data processing workflows.

Lead Developer

Red Light Management

Jan 2024 – Present

Charlottesville, VA

- Led a team of 5 in a consulting project with Red Light Management (RLM), a mid-sized concert venue. Developed a predictive model for concert ticket sales, coordinated efforts with RLM to address their objectives, and designed the AI application architecture.
- Developed a machine learning model with Azure ML Studio and trained the model on Ticketmaster and Spotify API data. The model has an 85% accuracy in predicting ticket sales.
- Engineered a user-friendly web application to manage the services for RLM's non-technical employees. Built on Django, Python, HTML/CSS/JS, and hosted on AWS DynamoDB for additional hands-free back-end support.
- Improved event planning accuracy and strategic artist selection, leading to a 20% increase in concert revenue. The app also enhanced forecast precision and reduced ticket sale overestimation errors by 50%.

NYC Wall Street Finance Externship

University of Virginia

Oct. 2022

New York, NY

- Selected as one of 20 participants out of 6,000 applicants for a prestigious externship program.
- Shadowed industry leaders at Morgan Stanley, Evercore, and BlackRock, gaining hands-on experience with high-frequency trading algorithms, quantitative financial modeling, and machine learning for predictive analytics.
- Participated in intensive 3-day, 8+ hour learning sessions, which included practical training on trading strategies, risk management tools, and investment portfolio optimization.

PROJECTS

UVAHacks Options Automation Tool (1st Place) | *Python, OAuth 2.0, Ngrok, Requests, JSON, Streamlit*

April 2024

- Best Finance Hack at UVA's Hoohacks 2024, the top financial project among over 2000 competitors.
- Built a financial analytics web app with Streamlit, reducing data visualization and portfolio management time by 50%.
- Integrated Black-Scholes and Fourier models for real-time options pricing, improving pricing accuracy by 40%.

HackMIT AI Notetaker (Y-Combinator Winner) | *Python, TensorFlow, OpenCV, Modal*

September 2023

- Developed an AI-powered application at HackMIT that processes handwritten notes or lecture recordings to generate structured notes and diagrams based on user feedback.
- Implemented Optical Character Recognition (OCR) using TensorFlow and OpenCV for text extraction from notes images.
- Leveraged Modal's stable diffusion functionality to generate high-quality images and diagrams from user input, integrating it with the application's note-taking features.
- Awarded a lifetime opportunity to pitch to HackMIT sponsor YCombinator for our idea.

SKILLS AND CERTIFICATIONS

Skills: Python, Java, SQL, Machine Learning (LDA, BERTopic, Scikit-learn), Cloud (AWS, Microsoft Azure), Data Analysis, API Integration (Ticketmaster, Spotify), Flask, Django, TensorFlow, Streamlit, OpenCV, Pandas, Docker, PostgreSQL

Virtual Job Simulations: JP Morgan Chase Agile, Quant, Advanced SWE Virtual Experience; BCG Intro to Strategy Consulting

Other: Portrait Photography Patent (No. 11086197), ICPC Regionals Honorable Mention