DANIEL HUYNH

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EDUCATION

University of Virginia, School of Engineering and Applied Sciences, Charlottesville, VA ***August 2021 - May 2024***
Bachelor of Science in Computer Science **GPA**: 3.98 / 4.0

- Coursework: Machine Learning, Artificial Intelligence, Software Development, Web Apps, Computer Systems, Algorithms

SKILLS

- Languages: Java, Python, C/C++/C#, JavaScript, React, SQL, R, Assembly, MATLAB, PHP, Typescript
- Software: Git, Docker, AWS (EC2, RDS, Lambda), MySQL, PostgreSQL, Heroku, Autodesk, Gradle, Splunk
- Systems: Windows, MacOS, UNIX, LINUX
- Libraries: scikit-learn, Flask, Django, React, Matplotlib, Angular, PyTorch, JavaFX, TensorFlow, NLTK, BeautifulSoup

EXPERIENCE

Application Engineering Intern,* Ansys,** Exton, PA ***May 2023 – August 2023

- Solely responsible for building software to simulate and compute calculations upon communication access data from constellation of satellites to ground facility antenna, requiring an efficient algorithm due to large scale of data/simulation. *Script and simulation adopted by a major telecommunications company and integrated in the next version of STK release*.
- Developed software to seamlessly convert between LK files into FFD antenna files, ensuring compatibility with STK software, *integrated in next version of STK release***.** Researched 3D file format types and file conversion for project.
- Designed and built user interfaces (C#), automation scripts (Python), and integration code to modify Ansys STK software for customer applications, specifically those in aerospace engineering research, design, and mission planning.

Research Assistant,* Floodwatch Project at University of Virginia (UVA)** ***May 2023 - Present

- *Lead researcher of LiDAR-based sensors* used to map flooding in cities, funded by *National Science Foundation*. Program sensor device hardware with Arduino, using C/C++, with accuracy up to 7 meters. Build public API written in Python.
- Build and maintain pipeline data collection from LoRa IOT sensor devices to gateway to project databases hosted on AWS EC2/S3 as part of Hardware team. Utilized AWS Lambda and AWS RDS for pipeline. Experienced in embedded systems.

Researcher and Subteam Lead,* CliniVision Project at UVA** ***September 2023 - Present

- Head of *Diagnosis* machine learning team, use PyTorch library on medical imaging/X-rays to detect anomalies against healthy patients, and diagnose medical conditions using image processing convolutional neural networks (CNNs).
- Spearhead development and implementation of a novel model with hopes to publish a research paper.

Teaching Assistant,* CS3100 (Algorithms) & CS2130 (Computer Systems) at UVA** ***August 2022 – May 2023

- ***DSA2***: Led discussions in teaching: algorithms of graph traversal (BFS, DFS, Dijkstra's, Prim's, Kruskal's), greedy algorithms, dynamic programming, recursive relations, proofs, machine learning algorithms, NP/NP-C, runtime analysis.
- ***CSO1***: Direct student learning for coding in C, computer architecture, x86, computer memory structure, logic gates, writing Assembly language, command prompt, Linux, SSH, IP, and version control using Git. Led lab sections of ~100 students.

Executive Board and Developer,* Project Code Club at UVA** ***January 2022 - Present

- Spearheaded ***Stock Market Bot*** project using **Scrum** methodology: utilized natural language processing NLTK library and ML models to train models, make predictions based on live stock market data and scraped news headlines concerning stock market trends, implemented with Python backend and Beautiful Soup to scrape data, using Firebase for our database.
- Implemented frontend with React (JS, JSX), Node.js to display data results of backend analysis, integrated with Flask.

PROJECTS

- ***BudgetBuddy***: **Winner of Capital One's Best Finance Hack HooHacks 2023** *Twilio, GPT API, JavaScript, Python, Flask*
  User can connect/share access to bank account transaction history and data with Plaid API, make budgeting plan, see current spending analysis on dashboard, and communicate on mobile with app's chatbot through SMS texts for purchasing advice, viewing current progress, or for financial advice, which uses Twilio and GPT API.
- ***HooEvents:*** *Django, PostgreSQL, Heroku, Google OAuth, Google Maps API, GitHub Actions*
  Social app for students to post, connect, and find events, locations, and event times at UVA. Solely responsible for login with Google OAuth, pin locations and find directions to events, manage database and migrations to Heroku. Automated CI & testing with GitHub Actions.
- ***Pacman Artificial Intelligence***: wrote Q-Learning and Approximate Q-Learning algorithms to train a bot to successfully play and win almost every game of Pacman provided on various size boards, trained on only 50 training games.
- ***HearIt****: Spotify API, Angular, TypeScript, PHP, PostgreSQL, HTML/CSS*
  Music social media web app where users can share posts to global & friends-only feed of favorite songs/artists/albums, join communities of similar interests, add friends, like/share comments on posts, and play snippet of song directly from post.

ACHIEVEMENTS

- University of Virginia SEAS Dean's List: Fall 2021, Spring 2022, Fall 2022, Spring 2023