David Lee

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Education

Atlanta, GA

Computer Science **Georgia Institute of Technology** Fall 2020 – Spring 2024

Concentration: Intelligence & Devices

Skills

Programming:	Python, SQL, VHDL, Java, C, C#, Assembly, Javascript, HTML&CSS, ReactJS
Software & Tools:	Git, Anaconda, Docker, ViteJS, Quartus, Arduino, Jupyter Notebook, Circuit Sim
Environments:	Ubuntu, Windows
Concepts:	Version Control, Machine Learning, Object-Oriented Programming, Computer Networking

Projects

Playable Device

January 2024 – May 2024

Blueprinted and built a functioning Simon Says game using an Arduino Uno R4 and 9 tactile switches w/ LEDs

- Laser cut and 3-D printed box and physically wired and soldered physical components
- Programmed using Arduino with a EEPROM memory high score function and endless mounting difficulty levels

Future Esports Experience

August 2022 – December 2024

Research Co-lead

Working with a GT team led by Dr. Laura Levy to create metrics for gauging the general health of Esports Athletes

- Conducted interviews and authored critical research documents using gathered insights to support project objectives
- Created a Figma-based front-end website prototype to provide scaffolding and guidance for the development team

Machine Learning Models to Assess Credit Risk

January 2023 – May 2023

Built machine learning models tasked with creditworthiness assessments given a customer from a public Kaggle dataset

- Developed Logistic Regression, Random Forest, and MLP (Multilayer Perceptron) Neural Net models using Python, PyTorch, SQL for data manipulation, and Jupyter Notebooks for documentation
- The Random Forest and MLP models outperformed others, with the highest accuracy reaching 92%, limited by data scarcity leading to overfitting in the MLP model

Python Chatroom w/ Peer-to-Peer(P2P) File Transfer

January 2023 – May 2023

Created a server and client program to create a virtual chatroom using socket programming

- Created server and client programs that run on a specific port and password via command line capable of accepting and refusing clients
- Programmed a file transfer system in which each peer is to obtain all chunks of a file set from other peers

Audio Peripheral for FPGA

August 2022 – December 2022

Created a peripheral device that processes numerical inputs to generate musical sinusoidal waveforms, producing sound for musical composition

- Programmed the peripheral using "SCOMP (Simple Computer)" VHDL; debugged and tested using a DE-10 Standard FPGA board

Leadership

Georgia Tech Esports

April 2021 – July 2023

President

- Elevated approved acquisition budget from ~$80 to $30,000, setting a historical record for the organization, surpassing budgets of similar CoC and SGA entities
- Headed comprehensive internal restructure initiative, onboarding 20+ admins and coordinators on current staff. This includes creating previously unwritten policies and communication systems and conducting interviews with numerous candidates
- Expanded scope of GTEsports by 150%, incorporating 12 additional games, each with the capacity to function as an independent club with its own membership (of hundreds) and administration staff
- Shaped the vision and strategy for both past president and future co-presidents, working to ensure that the organization's foundation is, not only strong, but future-proofed with the intention of emphasizing the organization's long-term success

Experience

SpectrAR

March 2023 – May 2023

Co-founder

Co-founded SpectrAR to pursue and explore AR/VR technologies

- Built initial product prototype, programming and assembling a user interface between an Arduino and an LED screen which played a pivotal role in a successful demonstration to the admins of CREATE-X and leading to acceptance to the CREATE-X program @ GT

References

Laura Levy - VIP/Research Professor/Mentor: laura@imtc.gatech.edu; levy.laura@gmail.com