Albert Lu

(847) 393-6299 | albertlu2024@u.northwestern.edu | github.com/azlu20 | azlu20.github.io

EDUCATION

Northwestern University   2021-2024
Bachelor of Science in Computer Science
Relevant Courses: Game Design and Development, Machine Learning, Engineering Analysis

Washington University in St. Louis **(GPA: 4.0)**   2020-2021
Relevant Courses: Object Oriented Programming Software Laboratory, Data Structures and Algorithms, Multivariable Calculus

EXPERIENCE

United States Liability Insurance Group   May 2021 - August 2021
Software Developer Intern
- ○ Utilized C# to create a dynamic and event-orientated front-end GUI (WinForm) that accessed and updated a SQL database of Employees that allows for data manipulation and analysis
- ○ Developed new features and bug fixed the data and UI tier of the live application using Angular and C# within a dedicated team environment

WashU Neurotechnology Club   2020 - 2021
Data Scientist/Software Developer
- ○ Developed neural networks with Python libraries such as PyTorch and TensorFlow to predict, with an accuracy of over 95%, the different physical conditions of a subject utilizing data collected with OpenBCI
- ○ Collaborated with other developers in the Engineering team using Git to maintain version control and to manage the main trunk for operating test environments

WashU Institute of Electrical and Electronics Engineers   2020 - 2021
Software Developer
- ○ Automated a drone using OpenCV and TelloPy in Python to recognize different colors of balloon and estimate the distance and height of the balloon before finally moving to and popping the balloon with limonene
- ○ Experimented systematically with procedural setups of drone to create an enhanced calibration of the drone's vision in order to maximize the accuracy of color recognition

Independent Contractor   2019 - 2021
Computer Science Tutor
- ○ Taught students aging from middle school to college Introduction to Computer Science and Data Structures and Algorithms with a strong emphasis on the conceptual and application aspects of CS
- ○ Curated and aggregated self-created presentations, coding questions, and projects to reinforce and emphasize fundamentals and to encourage for creative problem solving

TECHNICAL PROJECTS

HMU (Python, Angular, Flask)   2021 - Present
Designed and developed an expansive web app for college age students looking for gatherings. Gatherings are suggested by an algorithm that calculates mutual friends and other factors so that individuals can request to join while the host can use the platform to manage attendees. Utilizes Python for the middle tier data processing before using Flask to manage requests for the frontend built in Angular.

Recurrent Neural Network (Python)   2020 - 2021
Developed without any assisting frameworks such as Pytorch or Tensorflow. This Neural Network is trained to recognize handwriting by adjusting and updating a weights and biases table within a SQL database. Reached up to 90% accuracy on predicting handwritten numbers.

Recently Completed Programming Projects: 2020 - Present
- ○ **Board Games (C++)**. Developed several board games within a team environment using polymorphism and inheritance to simplify the process. Utilized Git and version controls to enable working in a group environment.
- ○ **Excel Scraper(Python)**. Produced commercially, this program is coded for flexibility to encourage reusability and to ensure it works on multiple templates.
- ○ **Azlu20.github.io (HTML, CSS, JS)**. A personal website that displays my past and ongoing projects.
- ○ **League of Legends Prototype(Java)**. An extensive project created to practice and to gain a better understanding of Object Orientated Programming Principles.

SKILLS/INTERESTS

Skills: Python, C++, Java, C#, SQL, HTML, Javascript, CSS, Angular, Git, Documentation, Database Management, Web Development
Interests: Reading Fiction and Nonfiction *(Count of Monte Cristo, Intelligent Investor, Blue Ocean Strategy)*, Playing and Watching Sports *(Tennis, Swimming, Basketball)*, Playing Video Games (*League of Legends, Super Smash Bros.*), Learning New Languages *(Python, C#, Javascript)*, Enjoying Outdoor Activities *(Hiking, Running, Scenic-Viewing)*