Chih-Yang(Young) Lin

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Education

- **Washington University in St. Louis** — St. Louis, MO
  Bachelor of Science in Computer Science and Financial Engineering - GPA: 4.00 — *August 2020 - May 2024*
  - **Awards**: Dean's List (4/4 semesters), Antoinette Frances Dames Award
  - **Relevant Coursework**: Data Structures and Algorithms, Object-Oriented Design, Rapid Prototype and Creative Programming (Full-Stack), Data Science, Financial Accounting, Capital Markets and Financial Management
  - **Organizations**: Google Developer Student Club (Developer), WashU Student Investment Fund (Junior Analyst)

Experience

- **Washington University McKelvey School of Engineering** — St. Louis, MO
  Cybersecurity Research Internship - Computer Security and Privacy Laboratory — *January 2022 - Present*
  - Selected as 1 of 17 participants in the Washington University summer research for undergraduate (REU) program
  - Developed a web scraper for App Store reviews with Python by leveraging the app-store-scraper API and optimizing delay time to overcome requests limitation, generating over 2 million in reviews that was used as the dataset to conduct natural language processing (NLP) on users' privacy concerns with mobile apps
  - Created queryable tables with Pandas dataframe by merging the reviews across different apps, pre-processing the reviews, and extracting the reviews that contained security/privacy keywords, which allowed for the data to be migrated to a MySQL database
  - Implemented xvector-PLDA, yvector-PLDA, and GMM-PLDA speech recognition systems (SRS) by setting up the Conda environment and adapting the original Python scripts to extract decision results and scores of the input audio, enabling the lab to launch and test adversarial attacks on black-box SRS
  - Proposed possible adversarial attacks on autonomous vehicles by examining the exposure sequence of mainstream HDR (high dynamic range) algorithms and reviewing existing literature in this area

  Teaching Assistant - Data Structures and Algorithms — *September 2021 - Present*
  - Instructed a group of 20 students in completing in-class assignments by facilitating discussions and assisting them in grasping concepts like run-time complexity, greedy/sorting algorithms, and data structures in Java
  - Hosted weekly office hours that provided one-on-one assistance on concept review and code debugging

  Academic Tutor - Introduction to Computer Science — *September 2021 - December 2021*
  - Familiarized students understanding of concepts like recursion, linear data structures, and object-oriented programming by teaching simple and practical examples
  - Provided direct assistance on programming assignments by explaining the questions conceptually and offering clear alternatives to debugging convoluted code, which resulted in an increase in assignment completion
  - Enhanced student performance on exams by hosting exam reviews to explain core concepts and facilitating mock exams

Projects and Extracurricular

- **JPMorgan Chase & Co. Software Engineering Virtual Experience**
  - Completed training modules with assignments that used Python, React, JavaScript, and Perspective to interface with and visualize stock price data feeds, gaining exposure into software applications in financial services
  - Created a live dashboard used by traders with the Perspective API that helped visualize real-time stock price changes
- **E-commerce Website**
  - Built a full-stack e-commerce website by integrating React and Django that supports top products carousel, product reviews, product search, full-featured shopping cart, order management, and a checkout process
  - Leveraged Django as the backend to create a scalable application that connected with PostgreSQL to store product/user information
  - Developed a user interface that support a full-feature e-commerce platform by using React and React-Bootstrap
- **Multi-Room Chat Server**
  - Constructed a multi-room chat server with Node.js as the runtime environment and Socket.IO to establish a WebSocket connection between the server and the client, which allows users to create and join public/private chat rooms freely
  - Implemented admin privileges by using JavaScript to process commands that enables admins to remove and ban users from the room
- **File System Simulation**
  - Built a file system simulation by utilizing object-oriented programming design principles and patterns, including interface inheritance, abstract factory design pattern, and command patterns that helped implement user interface similar to a command prompt
  - Created eight unique commands with C++ that allows users to access and modify the files in the file system

Technical Skills

- **Programming Languages:** Java, Python, C++, JavaScript, Bash, HTML, CSS, PHP, SQL
- **Libraries/Frameworks:** React, Node.js, NumPy, Pandas, Sklearn, Django
- **Tools:** Conda, Git, Socket.IO, Linux, MySQL, PostgreSQL