Edgar Fong

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Skills

- Python | C++ | Java | JavaScript | C | C# | Linux | Oracle DB | MySQL | MongoDB | Terraform | React | Selenium | jQuery | MATHLAB | Git
- Azure | AWS | GCloud | Cloud Computing | CI/CD | Keras | TensorFlow | Pytorch | IoT | OOP | Unity 2D | Game Development
- Microservices | Full-Stack | Frontend | Backend | Programmable Logic Controller | English, Spanish — *All professional proficiency or above*

Experience

Field Engineer   **Adcom Wireless**   **07/2020 - Current**

- Collaborated with major telecommunications companies (AT&T, Verizon, T-Mobile, Dish) to provide technical support and maintenance for telecommunications equipment, including antennas and radios.
- Assisted in designing site layouts and equipment positions for optimal signal strength and performance.
- Configured and installed Programmable Logic Controllers (PLCs) and associated components, ensuring full operational status of cellular towers.
- Integrated new telecommunications sites during off-peak hours to minimize service disruptions
- Communicated closely with clients to understand and fulfill technical requirements, ensuring high levels of customer satisfaction and adherence to project timelines.

Projects

Deep Learning Autonomous Tennis Ball Collector

- Created and optimized deep learning model through quantization to run efficiently on Raspberry Pi's ARM architecture, enabling real-time inference for autonomous operation.
- Conducted extensive data collection and model training using Keras and TensorFlow Lite, capturing and processing over 4000 images to enhance the deep learning model's performance in varied environmental conditions.
- Developed and implemented computer vision algorithms using Python and OpenCV to enable real-time detection and precise localization of tennis balls, achieving a detection accuracy of approximately 83%.
- Led the design and assembly of hardware components including Raspberry Pi 4, TT motors, and custom scooper mechanism.
- Implemented PID control algorithms to optimize motor performance and ensure precise navigation and maneuverability of the autonomous tennis ball collector.

OCR Mobile App Data Scraper

- Developed an autonomous data scraping application using Python, automating the process of data collection from mobile apps.
- Utilized pyautogui for screen navigation and data location, and applied image enhancement techniques for improved OCR recognition.
- Integrated the application with a database, ensuring efficient data upload and management with over 50,000 unique entries uploaded.
- Implemented multiple automation libraries (win32gui, keyboard, time) to achieve full automation of the data scraping process.

Cloud Instance Performance Analysis with Terraform

- Conducted detailed performance analysis, comparing cost, CPU, region, and storage metrics across different cloud providers.
- Developed a comprehensive performance-per-dollar metric to identify the most valuable cloud instances.
- Created a batch file and Terraform scripts to automate the creation and performance testing of cloud instances across AWS, Google Cloud, and Azure.
- Automated data collection and transfer using SCP, enhancing the efficiency of performance analysis.

Static and Dynamic Malware and Botnet Analysis

- Performed static and dynamic analysis to understand encryption methods and detection techniques.
- Executed a controlled live demo showcasing the creation and deployment of a botnet and ransomware, emphasizing the security risks and educational aspects.
- Documented analysis results, highlighting vulnerabilities and mitigation strategies as well as safe coding practices.

Unity 2D Game Development

- Created a 2D game in Unity utilizing many of Unity's core features like C# and Unity's scriptable objects.
- Wrote and maintained dozens of scripts for game mechanics, such as player and enemy behavior, collectibles, health systems, and weapon management.
- Implemented particle systems, object pooling, and various animations to enhance game performance and user experience.

Education

Bachelor of Science   **California State University San Marcos**   *San Marcos, CA, USA*   **08/2022 - 05/2024**

- Major in Computer Science

Associate of Science   **Southwestern College**   *San Diego, CA, USA*   **07/2019 - 05/2022**

- Associate in Science in Computer Science