Ying-Chi Chen

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WORK EXPERIENCE

SOFTWARE DEVELOPMENT ENGINEER INTERN
Amazon, Irvine, CA | 2023/05 – 2023/07

- Developed and integrated a metric collection plugin module for the Alexa Game Control (AGC) C++ SDK.
- Designed a user-friendly API for AGC developers with error prevention to record metrics and events.
- Built upon AGC's multi-threaded event-based scheduler to periodically flush collected data asynchronously.
- Utilized synchronization mechanisms like locks and condition variables to ensure the thread safety of the module and tracked down 10+ memory management and concurrency bugs within the scheduler.
- Deployed a Flask web service on AWS EC2 for receiving events and metric data in JSON format flushed from the metric module and computed meta metrics from the data using server-less computing on AWS Lambda.
- Simulated player actions by interacting with the Alexa Voice Service (AVS) API; collected metrics such as user perceived latency and AVS response duration to identify bottlenecks within the Alexa Game Control SDK.
- Implemented unit tests with 100% code coverage to test the efficiency and thread-safety of the metrics module using the Doctest library, and integrated test cases into a Jenkins CI/CD pipeline.

SOFTWARE DEVELOPMENT ENGINEER INTERN
ASUS Intelligent Cloud Services, Taipei, Taiwan | 2022/05 – 2022/08

- Underwent training in different Azure services, Azure pipeline, Docker, Kubernetes, and Helm.
- Developed Python web applications with Django and deployed on Azure App service.
- Containerized applications with Docker, implemented continuous integration and deployment with Azure Pipelines, and improved code quality with Sonar Cloud.
- Stored API requests in Azure SQL database, optimized data retrieval performance with Redis Cache, and implemented security measures by storing and accessing database passwords as secrets on Azure Key Vault.
- Manipulated PostgreSQL databases with SQL and Python scripts using the psycopg2 and SQLAlchemy libraries.

SOFTWARE ENGINEER INTERN
Lenovo, Taipei, Taiwan | 2021/06 – 2021/08

- Received comprehensive training in NumPy, PyTorch, OpenCV, and other Python ML-related frameworks.
- Fine-tuned deep convolutional neural networks to create image classification models with the CIFAR-10 and CIFAR-100 datasets as part of the Lenovo University Talent Research Program.
- Created real-time object identification programs with pre-trained models (VGG16) and OpenCV.
- Wrote optimized python scripts to organize and filter data from excel files.

E-COMMERCE SOFTWARE DEVELOPMENT INTERN
Parfums Christian Dior, Taipei, Taiwan | 2020/06 – 2020/08

- Implemented dynamic front-end web interfaces such as animated dropdown-menus, responsive images, and animated text using React, JavaScript, HTML, and CSS under the guidance of a mentor.
- Implemented responsive web design features to maintain the aesthetics of web pages on mobile devices.
- Tested website functionality (buttons, links, forms, etc.), tracked down translation errors, and checked for back-end database failures by passing in sample membership information and purchase orders.

Education

UNIVERSITY OF MICHIGAN, ANN ARBOR
B.S.E. in Computer Science
Engineering Honors GPA 3.89/4.0
Michigan Mars Rover - Autonomy Team

Expected August 2024

2021– present

Skills

Programming: Python, C++, C, Java, HTML & CSS, JavaScript, SQL, R
Technologies: Git, Docker, Kubernetes, Microsoft Azure, Amazon Web Services, PostgreSQL