Rex Wang

Summary

Experienced software developer with expertise in computer vision, user interface, Windows OS development, research project prototyping and performance analysis. Skilled in modern C++, C, Python, Matlab, XAML, and WinRT.

Work Experience

Software Engineer II, Microsoft 2016 - Present
Windows 365 - Authentication UX Team

- Owner of biometric sign-in, biometric enrollment and sign-in settings experience across multiple Windows 10 products.
- Architect and implement brand new user authentication experience for Surface Hub 2 and next generation Windows products.
- Maintain and improve user authentication experience on desktop logon screen, in App, and in browser.
- Developer contact of the team and mentor for junior team members.

Senior Software Engineer, Qualcomm 2012 - 2016
Multimedia Software Architecture Team

- **Touch screen algorithm**
  Launched commercial touch screen solution for mobile devices. The solution provides advanced features such as gesture recognition and water resistance. Owned noise mitigation, edge compensation and smooth filter algorithms.
- **Optical character recognition**
  Developed an optical character recognition engine for text recognition and tracking using realtime camera feed. Focused on performance optimization using Arm Neon assembly.
- **Computer vision algorithms performance analysis and optimization**
  Worked on analyzing critical performance metrics (CPU cycles, memory usage, power consumption) for computer vision algorithms and optimizing them with heterogeneous computing.

Education

University of California - San Diego, San Diego, CA 2011
MS, Computer Science

National Taiwan University, Taipei, Taiwan 2009
BS, Computer Science and Information Engineering

Projects

Vehicle detector
Designed a vehicle detector using tensorflow, scikit-learn, and OpenCV in Python. The program produces vehicle bounding boxes using HOG feature with SVM model.

3D object classifier
Implemented a pedestrian and vehicle classifier based on VoxNet with LIDAR scanned 3D objects.

Dog breed classifier
Experimented and developed multiple CNN based dog breed classifiers using tensorflow in Python. Compared results from various top performant CNN architectures.

Character and face verification via sequence matching
Computer Vision Lab, UCSD
Developed and improved a data driven algorithm to measure the similarity of two characters or face images. A sequence of most similar (nearest neighbors) characters or face images are used as feature to measure the similarity.