Ruei-Bang Chen 陳瑞邦

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Education

National Chiao Tung University (NCTU)	Hsinchu, TW
B.S. in Electrical and Computer Engineering, Minor in Computer Science, GPA: 4.11/4.3	Sep. 2012-June 2016

Carnegie Mellon University (CMU)	Pittsburgh, PA
Exchange Student in Electrical and Computer Engineering, GPA: 3.73/4.0	Jan. 2016-May 2016

Work Experience

Academia Sinica [Python, TensorFlow, PyTorch]	Taipei, TW
Full-Time Research Assistant at Institute of Information Science	July 2017-present

- Research focus: Computer Vision and Deep Learning (Advisor: Dr. Tyng-Luh Liu)
- Researched image completion using generative adversarial networks to produce sharp and realistic images
- Researched object detection and semantic segmentation on 360-degree images (equirectangular)

Academic Honors

Best Project Award in Web Application Development, CMU	Pittsburgh, PA
Scholarships for Excellent Students to Study Abroad, Ministry of Education	Taipei, TW
Exchange Student Scholarship, NCTU	Hsinchu, TW
Academic Achievement Award (top 5% in 2014 spring semester), NCTU	Hsinchu, TW
Calculus Award (top 20 out of 1101 in a campus-wide final exam), NCTU	Hsinchu, TW

Selected Projects

Multiplayer Web Tank Game (CMU) [Django, Python, Javascript]
- Detected collisions with Box2d physics engine and rendered the scene by HTML5 canvas and JQuery
- Featured a store to upgrade tanks and a real-time chatroom by Django Channels
- Deployed on Heroku and Amazon AWS

Computer Vision Projects (CMU) [MATLAB]
- Detected edges by Hough Transform
- Built a scene classification system with bag of words
- Developed an augmented reality application using planar homographies
- Recovered 3D structure by triangulation and stereo rectification
- Tracked objects in videos with Lucas-Kanade, Matthew-Baker, and Mean-Shift Trackers

Parallel Principal Component Analysis Applied to Surveillance Video (NCTU) [C++, OpenMP]
- Parallelized singular value decomposition (SVD) by one-sided Jacobi method
- Exploited tall-and-skinny SVD to further accelerate the program
- Reduced 54% of total execution time (including processing input and output)

Monopoly (NCTU) [Java]
- Devised a game where players competed to buy and upgrade estates to collect rent and avoid bankruptcy
- Featured a stock market, banks, vehicle stores, Chance or Community Chest spots
- Implemented rule-based AI players that made reasonable decisions

Skills

Programming Languages: C, C++, Python, Java, MATLAB, JavaScript
Tools and Technologies: Linux, Git, TensorFlow, PyTorch, Django, OpenMP, OpenGL
Languages: English (TOEFL 108), Mandarin Chinese (Native)