Yi-Chun Chen

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EDUCATION

National Tsing Hua University (NTHU) GPA: 3.48/4.3 Last60 GPA: 3.83/4.3 Hsinchu, Taiwan
Bachelor of Science in Power Mechanical Engineering Sept. 2013 – June 2017

PROFESSIONAL EXPERIENCE

Dept. of Electrical Engineering, National Tsing Hua University Hsinchu, Taiwan
Vision Science Laboratory Research Assistant Feb. 2017 – Present

- Devising a weakly supervised model that bridges vision and language in 360° videos to generate viewpoints and descriptions for automatic visual guidance.
- Constructing a 2.5-D object detection model using Pytorch and prototyping a wearable vibrotactile-feedback device for a real-time system aimed at guiding the visually impaired to reach target objects.
- Inventing an automatic ground-truth labeling technique to reduce the requirement of human efforts while building deep learning-based system.
- Improving average precision of normal field of view prediction from 19.2% to 27.8% and average recall from 8.3% to 12.8% with a 360° data augmentation technique.
- Evaluating robustness of weakly supervised model by defining new evaluation metrics and collecting first narrated 360° videos dataset.

HIWIN Technologies Corporation Taichung, Taiwan
Production Management Department Summer Intern Summer 2015

- Standardized operation procedures for manufacturing ballscrews to ensure the product quality.

PUBLICATIONS

Conference

Chou, S.-H.; **Chen, Yi-Chun**; Zeng, K.-H.; Hu, H.-N.; Fu, J.; Sun, M., Self-view Grounding Given a Narrated 360° Video, AAAI Conference on Artificial Intelligence (AAAI), 2018, New Orleans, U.S.A.

Shih, M.-L.; **Chen, Yi-Chun**; Sun, C.; Zeng, K.-H.; Cheng, C.-J.; Fu, J.; Sun, M., Towards Automatic Show-and-Tell in 360° Videos, European Conference on Computer Vision (ECCV), 2018, Munich, Germany. (Under review)

Shih, M.-L.; **Chen, Yi-Chun**; Tung, C.-Y.; Sun, C.; Cheng, C.-J.; Chan, L.; Varadarajan, S.; Sun, M. DLWV2: a Deep Learning-based Wearable Vision-system with Vibrotactile-feedback for Visually Impaired People to Reach Objects, International Conference on Intelligent Robots and Systems (iROS), 2018, Madrid, Spain. (Under review)

RESEARCH EXPERIENCE

Miniature Cell Sorter, NTHU Oct. 2015 – Oct. 2016

- Designed a real-time visual recognition system on microfluidic chip with Python and OpenCV to sort out circular tumor cells with 74% predictive accuracy of sorting silica particles of 10μm and 15μm in size.

SELECTED PROJECTS

Soccer Robot, 3rd Prize, NTHU Feb. 2017 – June 2017

- Developed path planning algorithm by implementing A* algorithm in MATLAB to avoid obstacles.
- Built PID controller for ROS-based robot to control speed of DC motors.

Autonomous Ground Robots, Ranked 7th out of 32, Eurobot, France Feb. 2016 – June 2016

- Established a real-time localization system using a laser rangefinder with C++ on Raspberry Pi for robots to optimize path planning.

LEADERSHIP

President of Chien Kuo and Taipei First Girl High Schools' Alumni Association June 2014 – May 2015

- Revived the association by spearheading 2 campus-wide campaigns, increased number of members from 25 to 75; largest known number since its inception.

SKILLS

Programming: Python, C/C++, Java, MATLAB
Libraries: Pytorch, ROS, OpenCV
Simulation Software: LTSpice, COMSOL Multiphysics
3D Modeling: Inventor, SolidWorks, AutoCAD