David Russell

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EDUCATION

CLARKSON UNIVERSITY
Pursuing B.S. in Computer Science (Honors)
Minor in Mathematics
Anticipated Graduation May 2020 | GPA: **4.0**

SKILLS

- Computer Vision
- Deep Learning
- Robotics
- Python
- C++
- MATLAB
- OpenCV
- PyTorch
- TensorFlow
- Linux
- GPU stack
- Git

EXPERIENCE

RI SUMMER SCHOLAR, RESEARCH ASSISTANT June 2018 - November 2018
The Robotics Institute, Carnegie Mellon University

- Researching object tracking under the advisement of Prof. Martial Hebert
- Developing an approach for first-person video combining tracking-by-detection and visual object tracking
- Experimenting with different algorithms using object detectors, appearance descriptors, and optical flow

RESEARCH AND DEVELOPMENT INTERN January 2018 - May 2018
Kitware Inc.

- Trained classification and detection models in PyTorch and TensorFlow and anaylzed the results
- Wrote Python scripts to understand annotated satellite imagery and create partitions for low-shot detection
- Tested an in-house structure from motion software and compared its performance to competing approaches

RI SUMMER SCHOLAR June 2017 - August 2017
The Robotics Institute, Carnegie Mellon University

- Worked with Prof. Stelian Coros on a sensing strategy for soft robots which utilized radio-frequency ID tags
- Selected tags and a reader and then collected data from un-actuated soft robot models that I built
- Conceptualized, implemented, and anaylzed approaches in a C++ optimization framework

UNDERGRADUATE RESEARCHER June 2016 - December 2017
Lab of Drs. Banerjee, Clarkson University

- Jointly calibrated a FLIR thermal camera and a Kinect and used them to collect multimodal data
- Used geometric vision methods in MATLAB to create and anaylze thermally-textured pointclouds
- Improved a retrofit kit to synchronization multiple Kinects for low-cost dense motion capture

PUBLICATIONS

Roy, V., **Russell, D.**, Chakrobarti, S., Hebert, M. (In Press). "Using Convolutional Neural Networks on Optical Flow for Visual Object Tracking." Robotics Institute Summer Scholars Working Papers Journal

Jiang, Y., **Russell, D.**, Godisart, T., Banerjee, N. K., and Banerjee, S. (2018). "Hardware Synchronization of Multiple Kinects and Microphones for 3D Audiovisual Spatiotemporal Data Capture." International Conference on Multimedia and Expo (ICME)
- Delivered an oral presentation on work at ICME

Russell, D., Bern, J., Coros, S. (2017). "Generalizable Pose Estimation for Soft Robots Using RFID Sensing." Robotics Institute Summer Scholars Working Papers Journal

AWARDS

- Barry Goldwater Scholarship
- James Lynch/Jan Searleman Sophomore Award for Computer Science, Clarkson University
- Best Presentation in Section, Symposium on Undergraduate Research Experiences, Clarkson University