Shu Nakamura

s2nakamu@edu.uwaterloo.ca
https://github.com/woodyZootopia

SKILLS

- C, C++, Python, R, HTML, CSS/SCSS, JavaScript
- Scipy, Pytorch, Chainer, Pandas, Matplotlib, TensorFlow, Keras, MongoDB and OpenCV
- Expertise with development on Linux, Git
- Substantial understanding of electronics, computer vision, sound processing, computer networking

EXPERIENCE

- **KIMIA Lab,** Dec 2018 - Present
  Computer Vision Research Assistant
    - Rewriting a new feature extraction program from MATLAB to C++ for inference acceleration

- **WATonomous, Self Driving Car Team,** Nov 2018 - Present
  Perception Engineer - Lane Detection
    - Embedding an object-detection DNN to the Intel Arria 10 FPGA to significantly improve inference speed

- **RIST,** Dec. 2017 - Aug. 2018
  Machine Learning Research Intern
    - Created anomaly detector in printed matters, and decreased error detection rate by 70%
    - Created Sleep Apnea Syndrome detector using patients' X-ray photographs and increased precision by 30%

RELEVANT ACTIVITIES/PROJECTS

- Japanese Olympiad in Informatics 2016 Finalist when in High School, placed in the top 80th out of 1000 participants in a nation-wide competitive program competition

- Created CNN-based musical onset detector using Japanese rhythm game "Taiko: Drum Master" (A report and the source code is available) by using Fourier Transforms to generate a mel-scale spectrogram to perform image analysis

- Carried out a research on evaluation of several solutions of Rubik's Cube when in High School, with Monte Carlo method program written in C++

- Working to code C compiler from scratch. It can now compile basic arithmetics, external function calls with arguments, function definition, and branching. Repository: https://github.com/woodyZootopia/woodycc

- Participated in Summer Robot Competition for freshmen in Kyoto University, got 4th prize in overall competition

EDUCATION

- **University of Waterloo,** Sep. 2018 - Present
  Bachelor of Mathematics, Computer Science

- **Kyoto University,** Apr. 2017 - Present
  Bachelor of Engineering, Electrical and Computer Engineering