Jing **Wang**

1872 Lakeshore Blvd. East, Toronto, Canada

(+1) 613-413-6558 | jingwangece@gmail.com | wacoder.github.io | Github | Linkedin

Summary

- Proficient: Python (Numpy, Scipy, Pandas, Scikit-learn)/MATLAB. Working knowledge: C/C++, Simulink, Git and Linux development tool chain (GCC, GDB, Valgrind). Prior experience: FPGA, VHDL, SQL, Java.
- Algorithms: Bayesian estimation, Monte Carlo method, Predictive modelling and analysis, Linear regression, Logistic regression, SVM, Decision trees, Neural network, Advanced statistics.
- Knowledge of digital system, signal and system, data and computer communication, modelling and simulation.
- Strong in both written and verbal communication skills. Co-chaired 9th EAI International Conference on Ad Hoc Networks, served as reviewer for refereed journals and conferences, published 7+ academic papers.

Experience

Ph.D Reseacher, University of Ottawa, Ottawa, Canada — Sept. 2012 - present

- Developed a tag-to-tag backscattering-based RFID system for indoor localization in IoT paradigm. Applied Bayesian inference and Monte Carlo-based particle filtering and logistic modelling to improve the localization accuracy of the proposed system. The localization accuracy outperforms existing algorithms by up to 36.6%.
- Developed a SLAM-based sequential localization and mapping algorithm to localize tags and unknown landmarks recursively.
- Built an open-source UHF RFID simulator – PASS. The simulator is designed in a modular and hierarchical fashion. Studied and used by Teslonix Inc. (Canada), Stony Brook University (USA). (MATLAB: +10,000 lines)
- Taught and Instructed Matrix Method for Signal Processing, Data and Computer Network, Computer Architecture etc.

System Software Engineer Intern, BlackBerry Inc., Ottawa, Canada — Sept. 2015 - Dec. 2015

- Worked in Core OS Integration team for the BlackBerry Android device - PRIV. Developed kernel diagnostic log reporting system software using netlink socket. The speed of transporting log is increased up to 90%. Developed diagnostic log analysis tool with Python RegExr, and used by other engineers. (C: +1,000 lines, Python: +500 lines)
- Gained knowledge of software engineering and software development life cycle, including coding standards, code review, source version control and testing.

Algorithm Engineer Intern, Agilent Technologies, Beijing, China — Feb. 2012 - July. 2012

- Worked in Measurement Research Lab for cyclo-stationary property of wireless signal. Implemented the computation algorithm for cyclo-stationary and created a MATLAB-based GUI. (MATLAB: +1,000 lines)

Research Assistant, Beihang University, Beijing, China — Sept. 2010 - Jan. 2012

- Developed CDMA communication system simulation using Simulink, which includes signal source, direct sequence spread spectrum, modulation, AWGN channel blocks etc. (Simulink)
- Developed the receiver of CDMA system in FPGA Xilinx Virtex-4. It includes Costas loop for carrier recovery, which is a closed-loop control system. (VHDL:+1,000 lines)

Selected Projects

Classic Titanic: Machine learning from disaster (GitHub Repo, Webpage**)**

- Developed predictive model on survival rate of Titanic dataset with random forest, adaboost, XGBoost algorithms. Achieved 80.86% classification accuracy on test data. (Jupyter Notebook, Python and R)

Instructor on CEG 3155 Digital System: Synthesizable VHDL Design for FPGA

- Presented basics about FPGA and digital circuits, VHDL implementation of multiplexer, demultiplexer, sequential circuits, finite state machine and arithmetic circuits. Instructed students to finish the labs on Altera DE2 board, such as fully functional calculator, SSD display, vending machine controller. Developed the final project as to create FSMs to interact with VGA adapter.

Education

Ph.D in Electrical and Computer Engineering, 10/10 — **Sept. 2012 - June 2017**
University of Ottawa, Ottawa, Canada

M.E. in Communication and Information Engineering, 91.03/100, Top 1% — **Sept. 2009 - Jan. 2012**
Beihang University (BUAA), Beijing, China

B.E. in Electronic and Information Engineering, 82.39/100, Top 20% — **Sept. 2005 - July 2009**
Beihang University (BUAA), Beijing, China

Self-paced online courses and certificates (Selected)

- Machine Learning (Coursera), Statistical Learning (Stanford Online), Fundamental Algorithms (EDX), Intro to JAVA for programmers (Udemy)