Hadi Nekoei Qachkanloo

hnekoeiq@uwaterloo.ca
hnekoeiq.github.io
226-779-2989

Education

- **University of Waterloo** — Waterloo, Canada
  Master of Applied Science in Electrical and Computer Engineering; GPA: 3.95 (93.5/100) — *Sep. 2017 – Aug. 2019*
  - **Coursework**: Advanced Digital Communications, Convex Optimization, Data and Knowledge Modeling and Analysis, Statistical Signal Processing, Image Processing and Visual Communication, Deep Learning
- **Sharif University of Technology** — Tehran, Iran
  Bachelor of Engineering in Electronics, Minor in Economics; GPA: 3.75 (17/20) — *Aug. 2012 – July. 2017*

Experience

- **Ciena Corporation** — Ottawa, Canada
  Research Intern — *Sep. 2019 - Dec 2019*
  - **Responsibilty**: Improving the pre-compensation for nonlinear impairments in fiber-optic systems using an adaptive learning algorithm
- **Coding and Signal Transmission (CST) Lab** — Waterloo, Canada
  Graduate Researcher & Teaching Assistant — *Sep. 2017 - Present*
  - **Thesis**: Compensation of Nonlinear Impairments in Fiber-Optic Communication Systems using iterative decoding, **Focus:** Information theory, Statistical signal processing, Message passing algorithms. Prof. Amir Khandani
  - **Teaching**: Running tutorials and hands-on labs on Adaptive and Cooperative Algorithms, Probability Theory, and Advanced Numerical Methods for more than 500+ students. (ECE457A, ECE316, ECE 204a,b)
- **Institute for Infocomm Research (I2R), Astar** — Singapore, Singapore
  Research Intern — *Jul. 2016 - Sep. 2016*
  - **Signal Processing**: Designing contactless HR and BR sensing systems to track continuously physiological signals
  - **Motion Detection**: Utilized machine learning to design an efficient WLAN connection of a client moving between Access Points with sensor assistance and real-time WLAN data transfer. **Supervisor:** Dr. Chin Keong Ho
- **Sharif University of Technology** — Tehran, Iran
  Research Assistant — *Feb. 2016 - Aug. 2017*
  - **BSc. Thesis**: We were working on Bluetooth Low Energy connectivity which can be used in low power IoT devices such as ultra-low-power medical devices for long-term monitoring of vital signals

Projects

- **Multi-Agent Reinforcement Learning** : Algorithmic Analysis and Improvements in Multi-Agent Reinforcement Learning in Partially Observable Setting**(Report) (Poster)**, DLRL summer school 2019, Edmonton.
- **Time-Series prediction**: Python Implementation of Autoregressive Tree Model for Time-Series Analysis**(github)**
- **Sequence Models for Natural Language Processing**: Implementation of RNN and Encoder-decoder models for text classification **(Kaggle)**

Awards and Honors

Faculty of Engineering Award (FOEs) for outstanding performance among ECE students ($1500)
International Masters Student Award and Graduate Research Studentship ($31k/year)
Singapore International Pre-Graduate Award (SIPGA) ($3000)
Ranked 30th among 270,000 participants in the Iran University Entrance Exam

Publication

NekoeiQachkanloo, H. et al., Artificial Counselor System For Stock Investment. In Innovative Applications of Artificial Intelligence (IAAI-19) Conference, Honolulu, Hawaii, USA, 2019.: AAAI Press., p. 8. **(link)**

Programming Skills

- **Expert**: Python, TensorFlow, keras, Google Cloud Platform, Matlab **Familiar**: R, C/C++, Java, Hadoop