

OBJECTIVE

Looking for software development Engineer internship (Fall or Winter 2016)

EXPERTISE

Artificial intelligence, Machine learning, Automated planning, Java, Python

INTERESTS

Full stack web development, Intelligent agent, System design, Data analysis, Healthcare

PROJECTS

Intelligent Affective Assistance Agent for the Elders - Research Assistant

September 2015
to Present

Computational Health Informatics Lab, University of Waterloo

- Tracking on-going activities, providing affective assistance in a proper detail when the user lost in the context.
- Propose an algorithm of hierarchical activities tracking using domain knowledge; Learn patient's emotion and awareness dynamics based on Affect Control Theory; Design affective assistance mapping policies for the agent.
- Skills: *Python, algorithms*

Human Activity Recognition using Smartphones

January 2016 to
April 2016

CS685 Machine Learning, University of Waterloo

- Classifying six basic activities (walk, walk upstairs, walk downstairs, sit, stand and lay) using signals from smartphone accelerometer and gyroscope.
- Implement three classifiers K-nearest neighbors (KNN), Support vector machine (SVM), and Hidden Markov Models (HMM). Analyze classifier performance.
- Skills: *MATLAB, machine learning*

BBM Protected and PetalMD Integration for Physician Schedule Status Exchange

January 2016 to
April 2016

CS792 Data Structures and Standards in Health Informatics, University of Waterloo

- Realize physician schedule status secure exchange between the BBM protected and the PetalMD with the help of the Mirth Connect integration engine.
- Develop a simulated PetalMD with basic server and client functions; Provide API for the Mirth Connect for information exchange; Channel design in Mirth Connect for petalMD and Mirth communication.
- Skills: *Full-stack web development, AngularJS, JavaScript, Mirth Connect*

Gesture Recognition for Adding Sound Effects

September to
December 2015

CS889 Human-Computer Interaction (HCI), University of Waterloo

- Generate real-time sound effects for on-going gestures did in front of a Kinect.
- Implement gesture recognition algorithm (DTW based KNN); design a sound effect triggering strategy considering the gesture duration.
- Skills: *Machine learning, Dynamic programming, Kinect for Windows (SDK) 1.0*

Earthquake Detection in Tweets using Apache Storm

November 2014

Computational Intelligence Lab, Kobe University, Japan

- Report "earthquake happened" when relevant tweets ration reach a threshold.
- Design a topology with one spout and two bolts. Implement a SVM based bolt to classifier the split tweets from the split bolt.
- Skills: *Machine learning, Apache Storm, Java*

Emergency Response - Research Assistant

September 2012
to June 2015

Image Processing and Intelligent Control Lab, Huazhong University of Sci. and Tech.

- Build a comprehensive emergency collaborate response network with multiple hierarchical organizations using snow-ball process
- Propose a network analyzing method to obtain key tasks & relations and shared resources of many departments.
- Propose a faster algorithm for emergency response plan generating with time & resource constraints.
- Skills: *Java, C++, LISP, MySQL, MATLAB, Hierarchical Task Network Planning*

DAN WANG

Email: d97wang@uwaterloo.ca

Phone: +1(519)7028692

Master's Candidate, Computer Science,

University of Waterloo

EDUCATION

Master of Mathematics, Computer Science

University of Waterloo, Waterloo, ON, Canada

September 2015

to Present

- GPA: 92 / 100
- Courses: CS686 Artificial Intelligence, CS685 Machine Learning, CS886 Affective Computing, CS889 Human-Computer Interaction, CS792 Data Structures and Standards in Health Informatics
- Teaching Assistant for CS137 and CS136, focusing on C, Scheme, and Data structures

Master of Science, Systems Engineering

Huazhong University of Science and Technology (HUST), Wuhan, China

September 2012

to June 2015

- GPA: 92.8 / 100
- Research on emergency response task planning (automated planning); research on emergency response task network analyzing (Social Network Analyzing)
- Teaching Assistant for Production Planning & Scheduling, covering Job-Shop, Project scheduling and meta-heuristics.

Bachelor of Engineering, Logistics & Systems Engineering

Huazhong University of Science and Technology (HUST), Wuhan, China

September 2008

to June 2012

- GPA: 88.9 / 100
- Courses: C, Java, C++, Data Structures, Database, Operations Research, Inventory management, Transportation.

PUBLICATIONS

- **D. Wang**, C. Qi, H. Muñoz-Avila, H. W. Wang, "Hierarchical Task Network for Emergency Response Task Planning with Resources and Temporal Constraints", *Knowledge-Based Systems*, 2015. (*Under Review*)
- **D. Wang**, C. Qi, H.W. Wang, "Improving emergency response collaboration and resource allocation by task network mapping and analysis", In *Safety Science*, Volume 70:9-18, 2014
- **D. Wang**, C. Qi, H.W. Wang, "HTN based carrier aircraft task planning", In *12th national youth management science and system science conference*, Xiamen, China, Nov. 2013. (*In Chinese*)
- C. Qi, **D. Wang**, "Dynamic Aircraft Carrier Flight Deck Task Planning Based on HTN", In *the 8th IFAC Conference on Manufacturing Modelling, Management and Control*, France, Mar. 2016.

ACTIVITIES

- Canadian Celebration of Women in Computing, **CAN-CWIC 2016**, Ottawa. Jan. 22-23, 2016
- **Japan-Asia Youth Exchange** Program in Science, Kobe University, Japan. November 2014

AWARDS

- **David R. Cheriton Graduate Scholarship**, Prestigious Scholarship, University of Waterloo. 2015-2017
- **National Graduate Scholarship**, Granted by the Ministry of Education of P.R. China. 2014

EXPERTISE

- Hiking, Yoga, Cooking, Jogging, Drawing, Writing.