Zihan (Avin) Wang

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Education

University of Toronto: *B.A.Sc. in Engineering Science (Robotics Option)* **Sep 2014 – Present**

Cumulative GPA: 3.96/4.0 (First & Second Year)

Best Ranking: 3rd out of 196 (Winter Semester, 2016)

1st Place in Canadian Computing Competition (2014) / University of Toronto Excellent Award (2016)

Engineering Science Summer Research Program Award (2016) / Engineering Science Summer Research Program Award (2015)

Dean's Honor List (2014-2016) / Entrance Scholarship in Engineering Science (2014)

Technical Skills

- High-Level Programming Languages: Python (2 yrs., proficient), C (2 yr., fluent), Java (1 yr., fluent)
- Low-Level & Hardware Programming Languages: Assembly, Verilog
- Industry Software: MATLAB, R, Microsoft Office
- Analytical Skills: Machine Learning, Math Model Design and Development, Statistical Analysis
- Other skills: Web Scraping, Data Mining, Computer Vision (basic), Deep Learning (basic)

Work Experience

- **Undergraduate Researcher** in *Machine Learning and Computer Vision Lab (UofT)* **July 2016 – Present**
  - Contributed to the computer vison/autonomous car project *Fine-grained Road Segmentation by Parsing Ground and Aerial Images* by implementing *deep learning* techniques (e.g. CNN) under *Prof. Raquel Urtasun*
- **Research Collaborator** in *The (Sickkids) Center for Computational Medicine (CCM)* **May 2016 – Present**
  - Developed a *disease-specialist matching algorithm* (in Python, on Github) based on analyzing medical publications
  - Implemented different *machine learning* approaches (e.g. Label Propagation, SVR) to classify if a person is an expert or not
  - Compared the performance of 5 methods on a dataset of 209,110 disease author associations and predicted 21,224 new disease-expert associations with 78% accuracy.
  - Published work on *Review of Undergraduate Computer Science (RUCS)*
- **Co-founder** and **Project Manager** of *Ideocracy* Inc. (Corp. Number: 9237542) **2015 – Present**
  - Participated in the development of first product, www.vobii.com, an online education website for university students
  - Led a team of 9 talented university students for Calculus Database and Course Review Package development
- **App Developer / Software Engineer / Graphic Designer** for *Hi Chinese* **Sep 2013 – Dec 2013**
  - Developed *user interface* for Hi Chinese, an Android app to teach basic Chinese characters by utilizing color phycology

Projects

- **GRE Vocabulary Self-Testing Program** *(on GitHub)* **July 2016 – Present**
  - Developed a *Python* program to assist students in studying GRE vocabularies in a fast and well-organized manner
- **Spam Email Detection Program** **July 2016 – Present**
  - Implemented and trained a Supported Vector Machine (SVM) Algorithm (in *Matlab*) on the data from SpamAssassin Public Corpus to classify spam emails (such as sale, advertisement or fraud emails)
- **Pipe Inspection Robot Design** **Jan 2016 – Apr 2016**
  - Designed the basic circuit (H-Bridge control, sensor system, etc.) and built the entire signal transmission system (analogy to digital, noise filter, etc.) for a pipe inspection robot
  - Programmed in Assembly with PIC16 series microchip and designed the basic electro-mechanical structure of the robot
- **Course Management Program** **Feb 2015 – Mar 2015**
  - Developed a program in *Python* that allows student to manage their courses based on the prerequisites
  - Scraped and parsed HTML in *Python* to analyze the prerequisites course structures from course website