Kunal Chandan

Computer Engineering Candidate

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LANGUAGES

- Java
  - OpenGL
- C/C++
  - Allegro5
- Python
  - TensorFlow
  - PyTorch
  - NLPTK
  - OpenCV
  - Pandas
  - Numpy
  - Selenium
  - MatPlotLib
- Shell
- Octave/MATLAB
  - PsychToolbox
- SQL
- LaTeX & XeLaTeX
  - Tikz

SKILLS

- Linux
- Data Processing
- Webscraping
- Git
- Altium
- Jira

CLUBS

Engineering Society Rep.
Engineering Ambassador
Waterloop Electrical Member

EDUCATION

UNIVERSITY OF WATERLOO
B.ASc Computer Engineering Candidate

SUMMARY OF QUALIFICATIONS

- **Data engineering** experience from prior internships at **OICR** & **York U**
- **Machine Learning** personal projects with **Tensorflow**, **NLPTK**, and **PyTorch**
- 5 years of programming experience in **Java**, **Python**, **C++** & **MATLAB**
- 2 years of experience with **Linux** distributions & **Shell**

EXPERIENCE

BIOINFORMATICIAN | Ontario Institute for Cancer Research

Jan 2019 - April 2019 | Toronto, ON

- Designed genomics pipelines for **data visualization**, **data cleaning** & **analysis** interfacing with existing **R**, **Perl** and **Shell** pipelines
- Project lead of new **statistical analysis** tool for all future studies at OICR
- Wrote future-proof & extensible code for processing **big data**sets (**Pandas** & **Shell**)
- Project open-sourced & version controlled with **Git**; created extensive **documentation**

RESEARCH INTERN | Elder Lab, York University

June 2017 - June 2018 | Toronto, ON

- Analysis of human response to visual stimulus with **MATLAB** & **PsychToolbox** with 2 novel experiments; research conducted under guidance of **Post-Doc**
- Designed data collection methods using **Amazon M Turk** guided by **PhD** candidates
- Conducted data augmentation, **visualization**, interpretation using **Python**, **OpenCV**, **MatPlotLib** for experimental data

ENGINEERING LEAD | FIRST Team 6632, Supreme Robotics

Sept. 2017 - June 2018 | Toronto, ON

- Designed and programmed **autonomous** robot control systems in **Java** to deliver game pieces around field using **encoders** and **gyroscopes**
- Led team of **30+** members over 12 weeks designing a 120 lbs robot

PROJECTS

MACHINE LEARNING PROJECTS

Natural Language classification of legal documents using **NLPTK** & **Tensorflow**

- Data cleaning and pre-processing using **Pandas** & **Numpy**

Global cloud coverage sequential data prediction with **PyTorch** (current)

- Image cleaning and pre-processing of **16.4 Gb** of data with **OpenCV**
- Pooling, **LSTM**s, and **RNN**s used to do image prediction

GITHUB.COM/KUNALCHANDAN

Personal programming projects, highlights include:

- **Rendering Engine** from scratch using **OpenGL Java bindings** (LWJGL)
- **Physics Engine** (Kinematics & Electrodynamics) written with **Allegro5** & **C++**
- WaterlooWorks and OscarPlus (McMaster) job **crawler**
- **Webcrawlers** for scraping comics from KissComics

AWARDS

2019 B.P. Dammizio Scholarship
2018 Co-op Award for Outstanding Achievement
2018 University of Toronto National Biology Competition 78th in Canada