

# Kunal Chandan

Waterloo Software Engineering Candidate

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## LANGUAGES

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

## SKILLS

- Linux
- Data Cleaning
- Webscraping
- Statistics
- Git
- Altium
- Jira

## CLUBS

Engineering Society Rep.  
Waterloop Electrical Member

## EDUCATION

**UNIVERSITY OF  
WATERLOO**  
B.ASc SOFTWARE  
ENGINEERING CANDIDATE

## SUMMARY OF QUALIFICATIONS

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

## EXPERIENCE

**BIOINFORMATICIAN** | ONTARIO INSTITUTE FOR CANCER RESEARCH  
Jan 2019 - April 2019 | Toronto, ON

- Built genomics pipelines for **data visualization, data cleaning & analysis**
- Cleaned and conducted **statistical analysis** on genomics data
- Identified key factors suggesting correlation with types of cancer
- Wrote human-friendly code for processing **big datasets (Pandas & AWK)**
- Data managed using **SQL** database
- Created markdown **documentation**; open-sourced and version controlled with **Git**

**RESEARCH INTERN** | ELDER LAB, YORK UNIVERSITY  
June 2017 - June 2018 | Toronto, ON

- Created 2 novel **psychophysics** experiments using **MATLAB** with **PsychToolbox**
- Conducted data augmentation, **visualization**, interpretation using **Python, OpenCV, Matplotlib** for experimental data
- Designing methods to gather data using **Amazon Mechanical Turk**

**ENGINEERING LEAD** | FIRST TEAM 6632, SUPREME ROBOTICS  
Sept. 2017 - June 2018 | Toronto, ON

- Designed and programmed **autonomous** robot mode is **Java**
- Using **Graph theory, Functional, Object Oriented** and **Procedural** programming

## PROJECTS

### GITHUB.COM/KUNALCHANDAN

Personal programming projects, highlights include:

- **Game 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

### MACHINE LEARNING PROJECTS

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

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

Cloud coverage global sequential prediction with **PyTorch**

- Image cleaning and pre-processing with **OpenCV**
- Pooling, **LSTMs**, and **RNNs** used to do image prediction

## AWARDS

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