

# EMAD AHMED

✉ e8ahmed@uwaterloo.ca 🌐 emadahmed.me in /emaduahmed 📷 emadahmed97

## SKILLS

<b>PROGRAMMING</b>	Python, Java, C++, JavaScript, SQL
<b>TOOLS</b>	Git, Heroku, AWS S3, Npm, Linux, Ubuntu, GDB, BeautifulSoup, pandas
<b>FRAMEWORKS</b>	Django, Node.js, Express, React, FFmpeg, Qt, MongoDB, Hibernate

## EXPERIENCE

### Software Design Engineer - Evertz Microsystems - Fall 2016

- Built preview functionality of the Evertz FilePlayer (customized video player for digital replay) from scratch allowing users to seek to certain points in a large file using **FFmpeg libraries, C++ and Qt**
- Optimized FilePlayer by only buffering when the user requests to start playing video, reducing bandwidth usage by **25%**
- Integrated FilePlayer into production by implementing JSON RPC messages to allow compatibility with back-end APIs
- Revamped logging architecture to detect and optimize workflows that are slowing system performance

### Software Engineer - TVR Communications - Winter 2016

- Reduced load time and database usage of Channel Lineup page by **50%** through efficient querying and caching using **Java, Hibernate and SQL Server**
- Implemented new sorting feature to order TV channels based on hospital location and advertising preferences
- Added cloning feature for TV Channels across multiple hospitals, resulting in less time spent to deploy new builds
- Built admin dashboard from scratch including back-end API to produce SQL scripts about hardware for new builds

## PROJECTS

### FadeawayHoops.com - Python, Django, PostgreSQL, scikit-learn, Heroku, AWS S3

Oct 2016

- NBA Website with a focus on Statistics and **Machine Learning** to predict key stats for the season
- Implemented web-scraping functionality using **BeautifulSoup** to display real-time data such as standings, stats and news

### BlazeSMS - Node.js, MongoDB, Twilio API

Oct 2016

- Patient management service which schedules and manages Doctor's appointments via text message
- Created custom **scheduling algorithm** to detect conflicts with appointment requests and recommend alternate timings

### BoardScribe - Python, Clarifai, Tesseract, Django

Nov 2016

- Online educational platform with **image recognition**, enabling students to transcribe pictures of notes
- Implemented Clarifai API with Tesseract.js to classify letters and train the model for optical character recognition
- Built web app using Python, Django and PostgreSQL with features such as student login authentication and sharing of notes

## EDUCATION

### University of Waterloo

Candidate for BAsC Systems Design Engineering (2020)

Relevant Courses: Data Structures and Algorithms (Python) , Digital Systems (Arduino), Human Factors Engineering (UI/UX)

## INTERESTS

- Hackathons, NBA, Working Out, Podcasts, Sports Media, Biology, Machine Learning