

EMAD AHMED

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

Skills

PROGRAMMING	Python, Java, C++, JavaScript, SQL
TOOLS	Git, Heroku, AWS S3, Npm, Linux, Ubuntu, GDB, BeautifulSoup, pandas
FRAMEWORKS	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 efficiency of FilePlayer by using database only when the user seeks to a point in the video, reducing the initial load on the database by **20%**
- Integrated FilePlayer into production environment by implementing JSON RPC messages to allow communication with FilePlayer and different back-end APIs

Software Engineer - TVR Communications - Winter 2016

- Reduced load time and database usage of the Channel Lineup page by **50%** through efficient database querying and caching with **Java** and **Hibernate ORM**
- Independently developed new module for TV product that allows deployment staff to release **SQL scripts** with metadata about hardware for new builds
- Implemented new sorting feature for channel lineup that orders TV channels based on hospital location and advertising preferences
- Added cloning feature for TV Channels across multiple hospitals that resulted in **25%** less time to deploy products for new customers

Projects

FadeawayHoops

Oct 2016

- Developed and designed NBA Website with a focus on Statistics and **Machine Learning** to predict outcomes for the season
- Created with **Python, Django** and **PostgreSQL** in the backend and deployed using **Heroku** and **AWS S3**
- Implemented web-scraping functionality using the **BeautifulSoup** library to display real-time data such as standings, stats and news

BlazeSMS

Oct 2016

- Built patient management service where patients schedule Doctor's appointments via text message and administrators can view upcoming appointments
- Built with **Node.js, MongoDB** and the **Twilio API** for handling incoming text messages from patients and replying based on the outcome of the appointment request
- Created custom scheduling algorithm that detects conflicts with appointment requests and recommends alternate timings to patients

BoardScribe

Nov 2016

- Created online learning platform that allows students to take pictures of school notes and transforms them into text
- Implemented Clarifai API with Tesseract.js to classify each letter in a picture and train the model for image recognition
- Built web application with **Python, Django** and **PostgreSQL** with features such as student login and sharing notes

Education

BASc in Systems Design Engineering , University of Waterloo (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, Product Design, Machine Learning