

# YOAV ARBIV

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## + EXPERIENCE

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### D2L | Software Developer

May 2019 - Aug. 2019

- Implemented a custom NLP question generation algorithm with a yield rate of 95% applicable questions
- Leveraged React-Redux to create a PDF viewer and annotator using containers and components
- Designed a RESTful API with Express to serve and cache course materials and user-generated content
- Created an authenticated Flask microservice to process course content and return related questions
- Implemented microservice pattern in API design to increase endpoint response time by >100%
- Managed database redesign to write cleaner CRUD operations and increase query speed by ~25%
- Wrote a test suite to benchmark quality of generated questions using Python scripts

### North | Software Engineer

Sept. 2018 – Dec. 2018

- Developed proprietary protocol for Bluetooth mobile-to-smartglasses communication
- Designed prototype smartglasses experiences using the model-view-viewmodel pattern
- Resolved an issue in the glasses rendering pipeline, increasing frame refresh rate by >90%
- Built infrastructure using Cookiecutter to rapidly kickstart new prototype projects
- Implemented inter-process communication and data serialization using Binder and Parcel frameworks
- Created predictive machine learning models from experimental image and audio data

### Extreme Networks | Software Tester

Jan. 2018 – Apr. 2018

- Wrote automated test cases using Postman and Newman to validate internal RESTful API
- Authored hardware performance report to be referenced in marketing, certified by the Wi-Fi Alliance

## + TECHNOLOGIES

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### Languages

JavaScript, TypeScript, Python, C++, Asm (RISC-V)

### Frameworks/Libraries

React, Redux, Node.js, Express, MongoDB, Mongoose, Flask, SpaCy, NLTK, Qt, Android NDK

### Tools

Git, Heroku, Travis, Bash, CMake, AWS

## + PROJECTS

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### MusicalAnalysis | Python, React

- Analyzes lyrical models to visualize sentiment, lexical diversity, and vocabulary depth
- Determines musical emotion (sadness, anger, happiness) from quantitative audio features
- Preprocesses lyrics, removing stopwords, punctuation, etc. with natural language processing

### LyricBot | Python

- Scrapes Genius.com for all lyrics from a given artist to create a model
- Uses a TensorFlow character-based recurrent neural network to write tweets
- Tweets are based off the lyric model and attempt to emulate the artist's lyrical style

## + EDUCATION

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### University of Waterloo | 3.9 GPA

Expected 2022

BASc, Honours Computer Engineering