Zakaria Soliman **Software Developer**

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SUMMARY

Professional software developer with 5+ years of experience in software development spanning from machine learning, data science to full stack web development. Currently working in a DevOps and back end software development role.

EDUCATION

Master of Science, Computer Science
Université de Montréal, Montréal QC AUGUST 2018
THESIS - Predictive Models for Career Progression

Bachelor of Science, Computer Science & Mathematics
Université de Montréal, Montréal QC AUGUST 2016
Undergraduate Student Research Award, NSERC

SELECTED PROFESSIONAL EXPERIENCE

Paradox Security Systems, Saint-Eustache — *Full Stack Cloud Developer* MAY 2020 - PRESENT
Current responsibilities include:

- Ongoing development of several REST APIs
- Building serverless cloud services
- Development of internal tooling
- Automating deployment and testing pipelines

Technologies: Python, AWS, TURN/STUN/ICE, MQTT, VerneMQ, Docker, uWSGI, NGINX, MongoDB

zaksoliman.com, Montréal — *Software Developer* AUGUST 2019 - APRIL 2020

- Small software development agency founded by myself and a colleague. We offered web development services working with the entire web development stack.
- Developed a WebRTC application for video conferencing and chatting application to allow ESL students to interact with each other. All audiovisual communication was done peer to peer with the help of Janus, a WebRTC gateway that we deployed on DigitalOcean.
- Developed full-stack web application for a B2B office furniture provider. The front end is built using React and the REST API in PHP, MySQL is used as a datastore. Deployed the platform on AWS.
- Developed a full-stack web educational platform for a group of CEGEPs using Python on the back-end to build a REST API. The platform, OCLaRE allows teachers to build interactive lab notebooks.

Technologies: Python, PHP, JavaScript, React, MySQL, AWS

Université de Montréal, Montréal — *Applied NLP Researcher* AUGUST 2018 - AUGUST 2019

- **Career Recommendation Engine:** at the RALI lab within UdeM. My research involved building a TensorFlow based job recommendation engine by modelling career trajectories after mining data from social media (LinkedIn) with the help of a server cluster we had at our disposition in the lab. The web crawler was developed in Python and we ran multiple instances in parallel on our cluster. MongoDB was used for data storage. This resulted in a publication at a Canadian A.I. conference.

Technologies Python, pandas, MongoDB, Tensorflow, spaCy, MongoDB, FastText, GloVe

Intact DataLab, Montréal — *Applied NLP Researcher* AUGUST 2018 - AUGUST 2019

- **Email Classification:** Built a document classifier to triage incoming emails to the appropriate teams for later processing. We were able to automate a part of customer service that was dealing with routing customers to the appropriate expert for their needs. Decreased wait time for a response to the clients by half. Python, pandas and spaCy were the main technologies used for the modelling. The end product was a model that combined decision trees that used linguistic features derived from extracted keywords to classify each customer request.
- **Customer Service Chatbot:** Developed a chatbot system to automate customer support. Reducing the pressure on the customer support department, and cut the time on phone calls by about a third allowing the customer support team to handle more critical issues. The model made use of a proprietary knowledge graph encompassing domain knowledge specific to the insurance industry, word embeddings and deep learning

Technologies Python, pandas, MongoDB, Tensorflow, spaCy, MongoDB, FastText, GloVe

Université de Montréal, Montréal — *Graduate Teaching Assistant* SEPTEMBER 2016 - MAY 2017

- Prepare and present a weekly programming tutorial to first-year computer science students.
- Contribute to the creation of programming assignments and projects for the students.
- Grade programming assignments.

Technologies: JavaScript

University of Ottawa, Remote — *Software Developer* JUNE 2016 -AUGUST 2016

- Developed back-end algorithms to compute semantic distances between IEML tags and to construct various IEML semantic objects.
- Optimized semantic distance algorithms by writing vector and matrix-based versions of the previously written algorithms.
- Developed and debugged back-end modules and unit tests. Wrote REST API documentation.

Technologies: Python, Numpy, Flask, MongoDB

SKILLS

- **Progrmaming Languages**: Python, JavaScript, SQL, bash
- **Technologies & Tools**: MySQL, PostgreSQL, REST, Numpy, pandas, PyTorch, spaCy, git, linux