ALI NOURI

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github.com/dynamic11

EDUCATION

Masters of Science in Electrical Engineering　　　　　　　*Sept. 2018 - present*
Carleton University, Ottawa, Ontario
Dr. Walter and Mary Chudobiak Entrepreneurial Scholarship
Ontario Graduate Scholarship for excellence in graduate studies

Bachelor of Engineering in Electrical Engineering, Co-op　　　*Sept. 2013 - Apr. 2018*
Carleton University, Ottawa, Ontario
Graduated with High Distinction

TECHNICAL STRENGTHS

Computer Languages	Python, MATLAB, C/C++, Java, CUDA, PHP, JavaScript,
Software & Tools	Git, GitHub, LaTeX, HTML, React, Laravel, Adonis, Google Collab

WORK EXPERIENCE

Organizer and Developer　　　　　　　　　　　　　　　Jun. 2018 - Present
CDH Studio (cdhstudio.ca)/ISED Canada

· Proposed a program similar to Microsoft Garage to attract young developers
· Participated in interviewing and hiring students form universities across the region
· Providing mentoring and technical support to students
· The program has garnered interest form Health Canada and the Treasury Board of Canada

Freelance Tool Developer　　　　　　　　　　　　　　Jun. 2015 - Present
Voozella.com

· Use PHP, JS, HTML, and CSS to development websites and tools for small businesses
· Provide consultation and assistance to clients to plan and publish Google advertisement campaigns
· Connect data visualizations tools such as Google Analytics and Data Studio for clients
· Developed a referral web app for Allstate insurance and Protective Plumbing Canada
· Maintain and support tools and websites (please see Projects)

Research Assistant　　　　　　　　　　　　　　　　　Jun. 2017 - Aug. 2017
Carleton University

· Supported a team of researchers in preparation for a conference paper
· Set up and documented multi-core Linux servers for testing

Simulation Software Developer (Intern)　　　　　　　　Sept. 2015 - Sept. 2016
Ericsson

· Simulation software developer for LTE sandbox testing
· Used Java (OOP) to develop and maintain LTE simulation tools
· Used C to test and compare product performance with simulator

1

Research Assistant (Intern)   Jun. 2014 - Aug. 2014
Carleton University

· Developed a circuit simulation program using MATLAB and tested with HSPICE
· Used C++ to extract and format the results obtained using HSPICE for data transfer into MATLAB
· Imported results into MATLAB from the HSPICE simulations using C++ and HSPICE Toolbox

EXPERIMENTAL PROJECTS

Application of MLP in Targeted Marketing Campaigns   Dec. 2019
Academic/Hobby Project

· Given information such as the customer's age, occupation, and income we were asked to predict whether the marketing phone campaign would be successful
· Experimented with generating dummy variables instead of numerically encoding the data
· Used SMOTE to generates synthetic data points for positive outcome samples
· Used Python's scikit-learn library to implement a 3 MLP with Sigmoid activation functions and Adam Optimization to train the model
· Repo for this project can be found on my Github

> **Important Challenges:**
> · Formatting and encoding all the different input data types to be usable with our model
> · Understanding the dangers and benefits of using SMOTE to add data points

Netflix ML Algorithm   Dec. 2019
Academic/Hobby Project

· Predict whether a user would enjoy "Miss Congeniality" based on their ratings of 30 other movies
· Used Python's scikit-learn library to implement a 3 MLP with ReLU activation functions for the hidden layer and Adam Optimization to train the model
· Used Python's Pandas library to format and prepare the data before feeding it into our model
· Used Python's Seaborn library to visualize the data and training error
· Repo for this project can be found on my Github

> **Important Challenges:**
> · Picking the number of neurons in the hidden layer and activation functions to improve accuracy

IKEA Sales Finder   Oct. 2019
Hobby Project

· Developed a web scraper to notify me when IKEA was having a "Bedroom Sale"
· Used Selenium WebDriver and the Geko browser engine to render the web page to parse the content
· Repo for this project can be found on my Github

> **Important Challenges:**
> · IKEA's website uses client-side rendering that requires the tool to fully render the page before parsing

CUDA Parallel Computing
4th Year Project   Sept. 2017 - April 2018

· Experimented with GPU parallelization for CAD algorithms
· Used **C++** and **CUDA** to run parallel data-driven modeling using Vector Fitting on the GPU

Important Challenges:
· Optimizing code and algorithms to achieve performance improvements using GPU computing
· Minimizing data transfer on the system bus between GPU and CPU to reduce speed bottlenecks

WEB APPLICATION PROJECTS

Talent Management Tool
CDH Studio   Feb. 2020 - Present

· Managing 2 teams of 3 student to develop an **open-source** tool to track and connect employees based on skills and interests
· Similar to LinkedIn, users develop a virtual CV by adding work history and skills
· Create a robust HR tools to view and generate custom reports on the registered talent pool
· Using a Node.js, React, Redux, Ant Design, and other dev tools to make the application modern and easily customizable for use in all government departments

Important Challenges:
· Maintaining a balance between the clients needs, technological limitations, and deadlines
· Learning new technologies rapidly to be able to make meaningful contributions

Jarvis Meeting Room Tool
CDH Studio   Jan. 2019 - Present

· Managing a team of 3 student to develop an **open-source** meeting room booking system
· Maintaining customer communication to ensure the tool meets the needs of ISED Canada
· Using a **MVC JavaScript** framework, **Adonis**, to speed up the development process

Important Challenges:
· Prioritizing code quality, maintainability, and documentation for future open source development
· Mentoring students at different skill levels and ensuring projects stays on track

Music Transfer Tool
Hobby Project   August. 2018

· Developed a tool to automatically migrate a user's music library from Apple Music to Spotify
· Used **PHP** and **Laravel** to develop the tool with secure authentication

Important Challenges:
· Developing a queuing system to run the playlist migrations on the server to bypass API rate limiting.

Referral Tracking Tool
Allstate & PPC   Oct. 2017 - December 2017

· Developed a tool for Allstate to track referral claims made for Protective Plumbing Canada

· Created functionality to view and track referrals by branch or by agent

> **Important Challenges:**
> · Implementing multiple user types with customized dashboards and varying levels of privileges

Coursepack Pre-order System   July 2015
IEEE Carleton Webmaster

· Developed a coursepack pre-order system to record student orders, collect funds, and automatically notify students through email when their order had arrived.
· Used **Laravel** as a **PHP** framework to speed up application development

> **Important Challenges:**
> · Using Laravel's built-in email drivers and connecting to **Sparkpost** to deliver email notifications
> · Ensuring the system was reliable as the app was collecting student information and orders

Voozella Event Discovery Tool   June. 2015 - Jan. 2017
Hobby project

· Developed a local event discovery tool. The tool took in the user's mood and recommend events
· Used **PHP** and **Laravel** to begin the project with a strong framework and reliable foundation

> **Important Challenges:**
> · Determining the scope of such a large project and learning tools rapidly
> · Creating user authentication, timezone and address formatting, and data validation/sanitization.
> · Linking moods with corresponding events based on event metadata

VOLUNTEER EXPERIENCE

HPCPS Workshop Organizer   Sept. 2017
· Developed and maintained the event website
· Helped organize and run the event

IEEE Carleton Webmaster   Sept. 2016 - Present
· Developed and maintaining the IEEE Carleton branch website
· Developed and maintained the Coursepack Pre-order System

IEEE Ottawa CASS-SSCS-EDS Webmaster   Sept. 2015 - Present
· Developed and maintaining chapter website

IEEE Carleton SPAC Webmaster   Jun. 2014 - Aug. 2014
· Developed and maintained event website