Mathieu Dufour

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Work Experience

Full-Stack Software Engineer August 2021 – Present
WFHomie, Permanent Full-time *Boston, MA (remote)*

- Built a machine learning (NLP) microservice for categorizing and analyzing Slack message data.
- Maintained a data pipeline utilizing Kafka streams and a PostgreSQL database.
- Developed WFHomie Kudos, a Slack app installed in 100+ workspaces and serving 500+ monthly users.
- Owned the front end of WFHomie's Analytics platform, using Airbnb's visx charting library for data visualization.
- Converted Figma designs into a full-fledged front-end application using React TypeScript and Tailwind CSS.
- Developed RESTful APIs in Node.js (Express) back-end servers.

Full-Stack Software Developer May 2021 – August 2021
Coveo, Internship *Montreal, QC (remote)*

- Member of the Workplace R&D team, responsible for the Digital Workplace line of products and connectors.
- Maintained, developed features, and wrote automated tests for microservices in C# (.NET), Scala, and Go.
- Implemented a point-and-click interface that improves the user experience of a crucial part of the Coveo platform.
- Participated in Agile ceremonies, including sprint planning and retrospectives.

Software Developer January 2021 – April 2021
WFHomie, Internship *Montreal, QC (remote)*

- Designed, implemented, and maintained features on the WFHomie platform, often working on tight deadlines to prepare features for clients.
- Implemented a booking system using the Stripe API, which now handles 21 transactions per month.
- Designed and implemented an authentication and access control system, now serving 1200+ users.
- Fully designed and implemented a Slack app installed and used monthly by 25+ companies.

Programmer Analyst May 2019 – August 2019
CGI Inc., Internship *Quebec City, QC*

- Developed a desktop application to automate the migration of mailboxes from on-premise Exchange servers to Office 365. The system reduced the time taken by technicians to set up and monitor a 10,000 mailbox migration from over 72 hours to less than 30 minutes, saving days of labor cost.
- Wrote PowerShell scripts to automate tedious tasks performed by technicians.

Projects

Machine Learning | *Python, TensorFlow, PyTorch, NumPy, Pandas, Matplotlib* September 2020 – December 2020

- Developed a convolution neural network for multi-label classification of image data.
- Implemented a multi-class logistic regression model from scratch.
- Prediction of the number of COVID-19 hospitalizations based on symptom search trends. Comparison of the accuracy of decision tree and KNN (k-nearest neighbors) algorithms.

Brain-Inspired Artificial Intelligence | *Python, NumPy, Matplotlib* September 2020 – December 2020

- Gained experience reading, understanding, and applying ML research.
- Implemented a Hopfield network (recurrent neural network that reproduces the associative memory function of the brain) to store and recall images.
- Implemented a temporal difference learning model based on Foster, D J et al.'s paper.

Education

DeepLearning.AI 2021 – Present
Natural Language Processing Specialization *Remote*

McGill University 2018 – 2021
Bachelor of Science in Software Engineering, Minor in Entrepreneurship *Montreal, QC*
Semester abroad at Nanyang Technological University, Singapore

Technical Skills

Languages: TypeScript, JavaScript, SQL (PostgreSQL), Python, Java, HTML, CSS
Frameworks: React, Node.js, Express.js, Tailwind CSS, Jest (testing), Redux
Developer Tools: Git, GitHub, GitLab, GCP (Google Cloud Platform), Docker, Liquibase, Terraform