# MAHMOUD ELSAFI ABDELHADI

📞 (604) 781-5604   ✉ mahmoudabdelhadii@outlook.com   ⬤ mahmoudabdelhadii   in mahmoudabdelhadii   ⊕ mahmoud.abdelhadii.com

## TECHNICAL EXPERIENCE

**Royal Bank of Canada (RBC)**                                               **September 2022 – September 2023**

*Full Stack Engineer Coop | Nuxt.js, SQL, Python, R, Docker, GraphQL (Hasura), Dataiku, AKS, Openshift*

- Designed and tuned comprehensive system architecture and web solutions that met exceedingly strict enterprise certification standards and code reviews with minimal supervision.
- Digitized and automated manual approval workflows by developing and implementing real-time software components through an understanding of required process validations and approving authorities, saving hundreds of audit hours.
- Led the cloud migration for the department by compiling useful strategies, solutioning obstacles identified and deploying best practices, accelerated migration efforts by 3 months.
- Supported the major risk assessment project by developing key risk indicators identified by the auditors and communicating with key stakeholders to optimize data sourcing.
- Enhanced ETL efficiencies by introducing data quality checks, schema changes recognition which successfully provided early problem detection and reduced data loss by 90%.

**Tutankhamun FC**                                                           **May 2021 - August 2021**

*Machine Learning Engineer Coop | Python, Sklearn, Tensorflow, Pytorch, SQL*

- Collect in-game data & performed data-cleaning & feature engineering in Python to pinpoint prominent features.
- Implemented SVM, KNN, Random Forest and Logistic regression models to predict game outcomes with Sklearn.
- Evaluated models over real-time data; best model had a 63% Accuracy with 4.5% standard deviation over 10 games.

## EDUCATION

**University of British Columbia, Canada**                                   **2018 - 2023**

*Bachelor of Applied Science – Electrical Engineering*            **Upper-level GPA:** 3.9 - Dean's Honor List

   **Relevant coursework:** Data Structures and Algorithms, Computer Architecture, Cybersecurity, Machine Learning, Software Design

- UBC International Major Entrance Scholarship
  - *Awarded **a merit-based $96,000** scholarship for outstanding academic achievement and extracurricular contributions.*

## PROJECTS

**Formula One Prediction Neural Network** 🔗 *| Python ,Sklearn, Pytorch*

- Extracted and organized data from Ergast API, F1 website, and Wikipedia using BeautifulSoup; engineered and optimized two neural networks with 2000-2019 data, incorporating a three-layer linear network with Softmax activation and dropout, alongside an MLPclassifier from Sklearn, using Weights and Biases API for hyper-parameter tuning and result visualization.
- Tested both models with data from 2020 and 2021 season; best model predicted 14/22 race winners for 2020 season and 11/17 race winners for 2021 season, with each race having 20 drivers.

**Amazoom Automated Warehouse** *| C#, SQL, HTML, CSS*

- Implemented a front-end GUI using CSHTML & SQL; functionality consists of a network of warehouses, shopping cart functionality, Administration portal, tiered authorization, and relational databases of carts, users, and items.
- Programmed multi-threaded backend using C#; Implemented automatic robot delivery system, anti-collision system & battery dis/charge simulation. Developed an algorithm to enhance truck delivery & restocking, warehouse mapping, and item placement by 50%.

## SKILLS

| | |
|---|---|
| **Languages** | Javascript/Typescript · Python · SQL · HTML · CSS · C · C# · C++ · GraphQL |
| **Frameworks/Libraries** | Vue · React · Node.js · TailwindCSS · NuxtJs · NextJS · Docker · Pytorch · Tensorflow |
| **Tools/Environments/Systems** | Git · AWS · JIRA · AKS · OpenShift · Dataiku · Agile Methodology |

Abe Batthish
VP, Digital Product Innovation, Analytics & Data, Internal Audit, RBC
abe.batthish@rbc.com

To whom it may concern,

I am writing this letter to wholeheartedly recommend **Mahmoud Abdelhadi** for any academic or professional endeavor he chooses to pursue. I have had the privilege of working closely with Mahmoud during his tenure as a Data Engineer at RBC, and I am continually impressed by his dedication, expertise, and the significant impact he has made within our organization.

Mahmoud has consistently demonstrated exceptional proficiency in a wide range of responsibilities, showcasing his technical skills, problem-solving abilities, and leadership qualities. He has taken on additional responsibilities beyond his initial role, and his achievements are truly remarkable.

One of Mahmoud's key accomplishments involved architecting and implementing a real-time notification pipeline utilizing the Hasura GraphQL engine. This innovation streamlined processes, automated approval workflows, and eliminated manual reconciliation, resulting in increased efficiency and significantly reduced response times. His work has played a pivotal role in digitally transforming our audit processes.

In the area of cloud adoption, Mahmoud led the charge in creating a roadmap for Azure cloud adoption for IA's suite of ML/AI applications. His analysis of technical advantages, engagement with various teams, and documentation of strategies showcased his strategic thinking and ability to drive technological shifts. His efforts ensured a smooth transition to the cloud and improved deployment practices.

Mahmoud's development of the AE Profile module showcased his full-stack capabilities. This feature greatly enhanced the audit planning process, offering a centralized starting point, standardization, and improved user experience. His dedication to improving processes and user experiences is commendable.

Furthermore, Mahmoud played a pivotal role in ensuring data quality and integrity within our organization. His oversight of Dataiku version upgrades, implementation of data quality checks, and mechanisms to prevent data loss demonstrated his commitment to maintaining high standards and accuracy in our data-driven decisions.

Lastly, his contribution to the development of a Data API for the CRM Template Module exemplified his innovative thinking and problem-solving skills. By streamlining processes and reducing development time, he consistently seeks ways to improve functionality and efficiency.

In conclusion, I am confident that Mahmoud possesses the skills, determination, and work ethic to excel in any academic or professional pursuit he chooses. His accomplishments at RBC are a testament to his dedication and ability to drive impactful changes. I wholeheartedly recommend Mahmoud and believe that he will continue to thrive and make valuable contributions wherever he goes.

Please feel free to contact me at abe.batthish@rbc.com if you require any further information or insights regarding Mahmoud. I am more than willing to provide additional details to support his application.

Sincerely,

Abe Batthish
VP, Digital Product Innovation, Analytics & Data
Internal Audit, RBC