

Mohamed Benaicha

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Education

In order of relevance

University of Toronto

Certificate in Machine Learning and Artificial Intelligence (2021 –2023)

- 3-course/semester professional certificate in machine learning, deep learning and building intelligent agents

Bachelor of Business Administration (Sept., 2010 – June, 2015)

- Bachelors of Business Administration (BBA), Co-op– *specialist/major in finance*

Ryerson University

Certificate Economics: Theory and Applications (Sept., 2020 – Apr., 2021)

- 5-course certificate in economic theory and application (econometrics stream)

Professional Risk Managers' International Association (PRMIA) (2022)

- Professional risk manager designation (PRM) - *attained*

International Institute of Banking and Finance (Malaysia)

- Master of Science in Islamic Banking and Finance (Sept., 2018 – Feb., 2020)

Skills and Qualifications

Technical

- **ML and AI application development and deployment:**
 - CG Texture Upscale: is an open-source *computer graphics texture resolution upscaler* that I developed to solve inherent problems in paid applications used by the animations industry
 - An end-to-end *crime location prediction application* using Toronto Police Service MCI data
 - An end-to-end *recommender system application* using anonymized user data and book ratings I've collected with over 55K products and 700K users
 - An end-to-end *NLP sentiment analysis application* using anonymized user data and book ratings I've collected with over 1.7 million comments and their respective ratings
 - An end-to-end *translation machine application* that translates English to Arabic using novel language pairs using the BERT transformer
 - Naïve, beeline, probabilistic and DQN artificial agents to solve the Wumpus world game
- **Technologies:**
 - ML/data science: NumPy, Pandas, SciPy, scikit-learn, TensorFlow, PyTorch, Spark ML, statsmodels, etc.
 - Programming: Python, C++, JavaScript, PHP
 - Databases/big data: MySQL, MongoDB, Redis, Apache (Airflow, Spark), Tableau.
 - Cloud: AWS – notably: EC2/ECR, Kinesis, Glue, Lambda, GUI/awscli/boto3, Azure – Azure ML, AKS
 - Deployment/CI/other DevOps: Django/FastAPI, Docker, ECR/Kubernetes, Heroku, CircleCI, Git/GitHub

Analytical and interpersonal

- Effective *analytical* skills developed through various financial market analysis tasks that I overlooked during my time at OTPP and Title Trading
- Effective use of *communication* to understand counterparty and teammate issues developed in dealing with daily tasks in equity and FI derivatives trading and operations at OTPP
- Proven *initiative* to solve problems and provide solutions developed through delegation of research team tackling the various ML and AI term projects at the University of Toronto Certificate Program in ML and AI
- Solid *teamwork* and interpersonal skills acquired interdepartmental coordination to confirm, price, settle and reconcile trades done by the derivatives groups at OTPP

Work Experience

Analyst, Derivatives Operations at Ontario Teachers' Pension Plan (Toronto) (Oct 2015, April 2017)

- Fixed income (FI) and equity derivatives finance operations role
- Accurate and timely recording and reporting of investment transactions including settlement and reconciliation of FI derivatives transactions
- Manual pricing and accounting for non-standard FI derivatives holdings
- Collaborate and provide recommendations for process changes and improvements for the fund's FI and equity derivatives holdings
- Monitor and report on internal control standards on FI and derivatives holdings

Derivatives, Investment Finance at Ontario Teachers' Pension Plan (Toronto) (May, 2012 – April, 2013)

- Validated option trades booked with counterparties bolstering my attention to detail
- Reconciled FI derivative threshold breaches strengthening my detail orientation
- Advised on booking NONA FX tickets bolstering my analytical skills
- Manually priced certain derivatives positions not priced by Market wire enhancing my analytical judgment
- Timely administered cash flows resulting from derivatives obligations strengthening my time management
- Won #1 place at OTPP summer case study competition cultivating my presentation skills

Proprietary Day Trader at Title Trading (Toronto) (Feb., 2011 – June, 2011)

- Analyzed and forecasted market data through technical analysis enhancing my analytical acumen
- Traded on alternative trading systems using 2nd level quotes and T/S tapes enhancing my detail orientation
- Managed trading journals on Excel for P/L bolstering my organizational skills
- Managed an industry-standard proprietary trading desk of my own strengthening my management skills

Certifications and Awards

- Certificate in Machine Learning and Artificial Intelligence (University of Toronto) – *Dec., 2022*
- PRM (PRMIA), CIM, CDMS, FITS, IDC (Canadian Securities Institute) – *various, 2012-2021*
- IIIBF Academic Excellence Scholarship – *June, 2018*
- ISRA Global Scholarship Award – *Feb., 2019.*
- Life Saving Society, Bronze Cross – *Mar., 2009*
- Kukkiwon – World Master Taekwondo 2nd Degree Black Belt – *May, 2007*

REFERENCES

- Reference 1: sina.jamshidi@utoronto.ca
- Reference 2: simon.tavasoli@utoronto.ca