ZAHRA 'MINA' PARHAM

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WORK EXPERIENCE

Machine Learning Researcher Intern

StockholmSyndrome.ai   July 2021 - July 2022

Montreal, Qc
- Developed an algorithm to explain the behavior of a deep reinforcement learning algorithm thanks to standard data mining tools, i.e. association rules.
- Designed three agents with specific playing styles trained with a deep Q-learning algorithm for the game Street FighterTurbo II. A designed algorithm provided insight into each agent's behavior and demonstrated their specific playing style.

Data Developer

Snapp Company   Jul 2019 - Dec 2019

Tehran, Iran
- Wrote SQL queries to aggregate data
- Performed business analysis and wrote SQL scripts to analyze data and parse it to Excel.
- Addressed ad-hoc to provide visible data for data analysts and businesses using SSRS and Power Bi.
- Developed ETL pipeline in python.
- Developed Clickhouse Data Pipeline for Real-Time Analysis and Reporting.
- Developed Powerbi/Superset/Grafana Tech Stack for Visualization and advanced reporting and dashboard analysis.
- Worked on Clickhouse, MySql, SQL Server, and BigQuery.

Web Developer

BimeBazar   Dec 2017 - May 2018

Tehran, Iran
- Modeling the different insurance products.
- Developed the website of the company using the Django framework.

SELECTED PROJECTS

Kaggle Competition

Machine Learning Course Final Project

- implemented an efficient algorithm to classify a given set of animal images into 11 classes.
- The report for this project can be found here.

Regularization and Feature Selection in Least Squares Temporal Difference Learning

Reinforcement Learning Course Final Project

- Python-based implementation of Least Angle Regression Temporal Difference (LARS-TD) algorithm and Least-Squares Temporal Difference (LSTD).

EDUCATION

University de Montréal - Ecole Polytechnique de Montréal   2021 – 2023

M.Sc. in Computer Engineering   Montreal, QC

- **Visiting Student**, Mila, 2022

Amirkabir University of Technology   2015 – 2019

B.Sc. in Computer Science   Tehran, IR

PUBLICATIONS

👥 Conference Proceedings

- **Z. Parham**, V. T. de Lille, and Q. Cappart, "Explaining the behavior of reinforcement learning agents using association rules," under review at IDA, 2023.

HONORS & AWARDS

- **Mitacs Scholarship**
  Research Masters in Canada   2021

- **4th Place, RoboCup Asia-Pacific**
  Rescue Simulation Virtual Robot, SOS CS Team   2018

SKILLS

ML Toolbox
PyTorch, Tensorflow, Sklearn, Seaborn, Stable-Baselines, OpenCV, Pandas, Scikit-learn, Numpy

Visualization
Plotly, Power BI, Tableau, Streamlit

Development Tools
Jupyter, Git, Pytest, Jira, Comet ML, WandB, Docker

Programming Languages and Scripting
Python, C++, C, Java, MySQL, SQL Server, HTML5, CSS3, JavaScript, Bootstrap

Multi-Agent Deep Reinforcement Learning

Bachelor's Thesis

- Addressed pursuit-evasion problem with a multi-agent deep reinforcement learning algorithm.

VOLUNTEER EXPERIENCE

Programmer

PrideHack - QueerTech's annual hackathon   Jul 2022

- Helped some amazing non-profits and make a difference in vulnerable communities.
- Developed a website for Project10 company.
- Designed a database according to their requirements.