

Ahmed Elghamriny

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EDUCATION

Dalhousie University

Bachelor of Computer Science

Courses: Deep Learning, NLP with Deep Learning, Machine Learning, Data Warehousing-Mining, Algorithms, Software Engineering

September 2020 - May 2025

Halifax, NS, Canada

PROJECTS

Personal Portfolio Website (Elghamriny.com) | *React.js, Node.js, JavaScript, HTML, CSS*

- Developed a responsive and interactive personal portfolio website to showcase skills and projects
- Built with React.js for a dynamic and modular user interface, enhancing user experience and engagement.
- Utilized Node.js for server-side functionalities, including handling form submissions and connecting to backend services.

Neural Networks from Scratch | *Python, NumPy*

- Designed a neural network using forward propagation, backpropagation, and weight updates for supervised learning tasks.
- Built matrix operations for efficient computation, leveraging matrix manipulation techniques to streamline performance.
- Developed a backpropagation algorithm to compute gradients and minimize the error function, enhancing model accuracy

Taxi-v3 Q-Learning Reinforcement Learning | *Python, OpenAI Gym, NumPy, Matplotlib*

- Developed a Q-learning agent to solve the Taxi-v3 environment from OpenAI Gym, achieving optimal navigation for passenger pickup and drop-off in a 5x5 grid-based environment.
- Designed and trained the agent to learn an optimal policy using exploration and dynamic epsilon-greedy strategies.
- Implemented a training pipeline that updates the Q-table iteratively based on observed rewards and expected future rewards.

Word2Vec Skip-gram Embeddings for Semantic Representation | *Python, PyTorch, Sklearn*

- Designed and trained a Skip-gram Word2Vec model on a corpus of 30,000 unique vocabulary words, generating 1.5 million context-target pairs through sliding window sampling.
- Engineered preprocessing pipeline: tokenization and cleaned raw data using simple regex and list comprehension techniques.

Auto-diff System | *Python, NumPy*

- Developed a lightweight automatic differentiation system inspired by PyTorch.
- Designed a computation-graph framework enabling seamless network definition and differentiation.

TECHNICAL SKILLS

Languages: Python, C, C#, C++, Java, JavaScript, SQL, HTML, CSS, DAX, M

Frameworks: Flask (Py), React.js (JS), Node.js (JS), ExpressJS (JS), NextJS (JS), Tailwind (CSS)

Databases: PostgreSQL, MySQL, MongoDB, DynamoDB, Microsoft Suite

Developer Tools: Git, Bash, GitHub, Linux, AWS, Docker, Kubernetes, Power BI

Libraries: Pandas (Py), NumPy (Py), PyTorch (Py), Tensorflow (Py), Matplotlib (Py), Scikit-learn (Py)

LEADERSHIP & ACTIVITIES

Learning@Dal Mentor

Dalhousie University | Volunteer

- Supported and guided new students through their transition to university life
- Led one-on-one and group mentoring sessions and organized academic support workshops
- Provided thoughtful facilitation to connect students to relevant people and resources.

Team Leader – GENAI Hackathon on Wellbeing

Dalhousie University | Hackathon

- Led a team of 5 in developing an innovative AI-driven solution to promote mental well-being.
- Integrated AI to analyze negative entries and generate tasks to help users address challenges.
- Presented the project to judges and earned recognition for its creative approach to mental health.

CERTIFICATION & AWARDS

AWS Certified Solutions Architect – Associate

Issued by Amazon

Machine Learning Specialization

Issued by DeepLearning.AI and Coursera

Microsoft Power BI Data Analyst Professional

Issued by Microsoft and Coursera

ICDL Arabia Certificate

Issued by Microsoft and Coursera

Dean's List

Dalhousie University

WORK EXPERIENCE

Min Beirut Front Desk Receptionist

May 2023 – August 2023

- Greeted clients and checked them in for appointments.
- Scheduled and confirmed appointments via phone and in-person inquiries.
- Handled cash, credit card, and digital payments accurately.

McDonald's Crew Member

March 2022 – August 2022

- Provided efficient, high-quality customer service in a fast-paced environment, enhancing customer satisfaction and contributing to positive feedback ratings.
- Collaborated closely with team members to meet service goals and support smooth restaurant operations, fostering a strong team-oriented environment.
- Followed strict food safety and quality standards, ensuring compliance with company policies and health regulations.