Ashkan Khademi

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EDUCATION

York University — Toronto, ON
Bachelor of Science in Computer Science — *September 2020 – December 2024*
- Courses: Advanced Object-Oriented Programming (Java), Computer Organization, Introduction to Database Systems, Fundamentals of Data Structure, Operating System Fundamentals, Software Design

TECHNICAL SKILLS

Languages: Java, HTML, CSS, JavaScript, C, SQL, Python
Frameworks/Tools: Node.js, Express.js, jQuery, PyTorch, Scikit-learn, Pandas, NumPy, Git, MLflow, Azure, AWS
Areas of Expertise: Machine Learning, Deep Learning, NLP, MLOps

WORK EXPERIENCE

Software Developer Intern — February 2024 – Present
ReliablyME Inc. — *Toronto, ON*
- Created a Python-based cohort projection model using Pandas and NumPy, automating customer growth, retention, and churn predictions with real-time updates.
- Engineered an automated cohort tracking system to track customer transitions across subscription plans, enhancing forecast accuracy and scalability.
- Devised predictive algorithms to analyze historical subscription data, detecting churn trends and refining customer acquisition cost (CAC) and retention rate calculations.

RESEARCH

Cybersecurity and DPI Anomaly Detection — September 2024 – December 2024
York University — *Toronto, ON*
- Researched real-time anomaly detection with Beta-VAE and Suricata, improving detection from 0.1% to 77.8%.
- Designed an AI-driven intrusion detection system, analyzing 50,000+ network packets for suspicious activity.
- Integrated live packet monitoring with Scapy, enabling real-time analysis of encrypted and unencrypted traffic.

PROJECTS

RTSP Client (Java, Sockets, Networking)
- Refined an RTSP client for video streaming using UDP and TCP, enabling MJPEG playback at 25 fps.
- Implemented three features: SETUP, PLAY, and PAUSE commands for smooth video playback.
- Optimized frame buffering to minimize disruptions from out-of-order frames.

Music Recommender (Node.js, Express.js, EJS, Axios)
- Constructed a music recommender integrating Last.fm's API to suggest 100+ songs based on user-selected genres.
- Developed a real-time recommendation system supporting 5+ genres, enhancing user engagement and personalization.
- Refined API calls to reduce response time and improve data retrieval efficiency.

Budgeting System Application (Java, JSON, Agile)
- Built a budgeting tool using Java and JSON to manage 100+ transactions across categories.
- Applied Agile methodology for faster updates, increasing user satisfaction while reducing system issues.
- Collaborated with a team of 5 to enhance the tool's functionality and overall performance.

Hospital Management System (Java, OOP, Database Management)
- Crafted a Java-based system managing 500 patients, 70 physicians, and staff for hospital operations.
- Utilized OOP principles to manage multiple departments, improving patient care and workflows.

VOLUNTEERING EXPERIENCES

Canada Learning Code — September 2023 – August 2024
- Volunteering as a mentor in a program reaching 977,000 learners and hosting 11,000 coding events.
- Ensuring a positive learning environment for 4-5 learners by answering questions.