MIKHAIL SKAZHENYUK

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EDUCATION

HBSc in Computer Science Graduating 05/26

University of Toronto - St. George Campus, Toronto, ON, CA **3.59**/4.0 cGPA

Programs: Computer Science Focus in Artificial Intelligence (Specialist), Cognitive Science (Major), Statistics (Minor)

Coursework: **Data Structures** and Analysis, **Algorithm Design**, Analysis & Complexity, **Machine Learning**, **Artificial Intelligence**, Probabilistic Learning and Reasoning, Computer Vision, Natural Language Processing, Neural Networks and Deep Learning.

EXPERIENCE

University of Toronto, Toronto, ON: Researcher Sep 2024 - Present

- Simulated how affective state affects memory retention curves with a Cognitive Architecture model in Python.
- Performed Linear Regression on Simulated participants' affective states, showing a strong correlation between memory retention and emotion.
- Supervised by Professor Can Mekik.

Freelance, Toronto, ON: Web Developer May 2025 - June 2025

- Commissioned to build a full-stack, responsive website for a fraternity using React, Tailwind CSS, and Node.js.
- Implemented a clean, mobile-friendly UI, ensuring accessibility across devices and meeting client specifications.
- Managed project lifecycle from requirements gathering to deployment, delivering a functional platform for communication for 100+ members.

TECHNICAL SKILLS

Languages: Python (Proficient), C (Advanced), Java (Advanced), C++ (Intermediate), HTML/CSS (Intermediate), MATLAB (Beginner) **Libraries:** PyTorch, TensorFlow, NumPy, Pandas, Keras, Matplotlib, Scikit-learn, React **Tools:** Bash, Git, Linux, SQL, LaTeX, MySQL, Tailwind CSS, node.js

PROJECTS

Predicting Stock Trends with Linear Regression and Sentiment

Developed a predictive model to forecast stock market trends using Machine Learning techniques, including SARIMA and transformer models, alongside sentiment analysis.

- Achieved a **77.5% directional accuracy** with a transformer model in predicting stock price movements, indicating effectiveness in capturing temporal dependencies and generalizing to new data.
- Simulated trading on unseen Tesla (TSLA) stock data, demonstrating a hypothetical **profit of $12** over 100 prediction steps, suggesting potential for net gain over time.
- Conducted sentiment analysis on financial news, achieving **80% accuracy** on article titles with Random Forests for binary and ternary classifications.

Preemptive User-Level Threads Package

Designed and implemented a user-level threading library in C, enabling concurrent execution of multiple user threads on a single processor.

- Developed core cooperative threading functionalities, including thread creation, yielding, and explicit termination.
- Engineered preemptive threading using POSIX timer signals to simulate hardware interrupts, allowing periodic context switching between threads and ensuring robust concurrency.
- Implemented a First-Come-First-Served (FCFS) scheduler , and integrated a preemptive priority scheduling algorithm to prioritize threads dynamically.

Media Streaming Server & Client in C

Engineered a robust server-client system in C using socket programming to facilitate the streaming of diverse media files (e.g., .wav, .mp3, .ogg, .flac).

- Designed and implemented a dynamic buffering system on the client to receive and process media file chunks efficiently and without memory errors, handling files that can be extremely large.