Max Xu

+1 (647) 513-8665   hmaxxu@gmail.com   linkedin.com/in/hmaxxu https://maxxu.vercel.app

Education

University of Toronto *Sept 2024 – May 2028*
Honours Bachelor of Science in Computer Science

Relevant Experience

YouTube Partner Remote
YouTube *Jan. 2024 – Present*

- Designed and implemented a real-time sentiment analysis system using Apache Kafka and Google Cloud's YouTube API for high-throughput data streaming, automating data ingestion from over **1,000,000** viewers and comments.
- Employed Spark for real-time sentiment analysis, utilizing various machine learning models to process comments efficiently, and performed further statistical analysis in DataBricks and Google Colab.
- Utilized BERT for natural language processing to obtain actionable insights from viewer feedback, resulting in a **400%** increase in engagement and retention by optimizing content strategy.
- Set up a Kafka broker system on a virtual machine running Ubuntu, with multi-port configuration and Zookeeper integration, ensuring scalability and reliability.
- Managed monetization through AdSense, gaining experience in digital advertising strategies and optimizing revenue generation.
- Enhanced content alignment with audience preferences, refining strategies based on nuanced sentiment insights to better engage the community.

FJudge *// C/C++, Python, Flask* *July 2024*

- Developed a comprehensive full-stack programming competition judge using Python, C++, and Flask.
- Utilized multithreading and async to manage time-outs and manage memory leaks in submitted code.
- Crafted over 20 algorithmically challenging tasks and supervised more than 5 contests.

LuaBot *// C/C++, Python, SQL* *March 2024*

- Created a virtual currency simulation for the illustration of mathematical and economic concepts.
- Maintained and extended a multi-threaded application, applying asyncio to create concurrent code.
- Organized multiple rounds of closed and open beta testing, drawing over **100** participants in the final round.

Additional Experience

SHAD Fellow Toronto, ON
SHAD Canada *June 2023 – August 2023*

- Assembled a team dedicated to the development of startups aligned with sustainable practices.
- Led and facilitated discussions on innovations surrounding AI and ML in various fields and industries.
- Developed and delivered a persuasive startup concept incorporating machine vision and data processing, securing **2nd** place in a competitive judging panel.

Achievements

- Developed engaging and interactive tools and software using JS, with over **250,000** downloads/uses.
- Canadian Computing Competition Senior Division Certificate of Distinction (2023): Achieved using C++20 Largest programming competition in Canada, hosted by the University of Waterloo
- Hypatia and Fermat Math Contest Certificate of Distinction

Technologies

Languages: C/C++, Python, Java, SQL, Javascript, HTML/CSS, Objective-C

Frameworks: Apache Kafka, Spark, Node.js, React, Next.js, Django, MongoDB, Flask, Tailwind CSS

Libraries: Boost, Tensorflow, PyTorch, sklearn, Qt, Pandas, SciPy, NumPy, OpenGL