Akshay Sharma

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EDUCATION

Bachelor of Computer Science, Honours Co-op | *University of Manitoba* **Jan 2018 - Present**

- Cumulative GPA: 3.90 / 4.50
- Dean's Honour List (Fall '19, Winter '21)
- Expected Graduation: Jan '23

INDUSTRY EXPERIENCE

Software Developer Intern | *Norima Consulting Inc.* **May 2021 – Aug 2021**

- Spearheaded the development of Android and iOS applications designed to upgrade and automate building inspection workflows for fire inspectors.
- Built interactive floor plans and data tables for mobile devices to ease navigation and editing using React Native, MapboxGL, and GraphQL.
- Implemented query caching and mutation queuing with custom database conflict resolution policies and fallbacks to enable offline collaboration among users.
- Set up internal and closed beta testing tracks for Google Play Store app deployment while handling communications with stakeholders regarding Legal Agreements and Privacy Policies.

Junior Developer Intern | *Value Partners Investments Inc.* **Sept 2020 - Dec 2020**

- Developed and optimized internal APIs, function apps, and reporting components using C# and Azure Cloud Services to streamline day-to-day operations.
- Researched and implemented a bi-layer LSTM machine learning model, trained using transfer learning in Keras to perform time-series analysis of the company's data and predict account growth with an RMSE value of 0.0825.
- Devised rigorous unit tests with over 90% coverage to ensure that the products and services were optimized and fail-safe.
- Frequently presented new ideas and project developments to the IT Department promoting the use of technology in a finance-driven corporation.

Jr. Machine Learning Engineer Intern | *Laivly, 24-7 Intouch* **Jan 2020 - Apr 2020**

- Designed and implemented a data extraction pipeline, deployed on Kubeflow to prepare training and testing data for client-specific conversation models.
- Created API functionality that enables customer service agents to manage and correct a chatbot's ongoing conversations allowing the chatbot to resume with complete context while improving its previous execution speeds by over 60%.
- Updated the database and NLU pipeline to fix breaking issues in a contextual chatbot built using RASA.

TECHNICAL SKILLS

- **Programming Languages:** JavaScript, Typescript, Python, Java, C++, C, C#
- **Tools and Technologies:** ASP.NET, SQL, GraphQL, Azure, MongoDB, React, Docker, GLSL, OpenGL**,** Git, Keras

PROJECTS

BisonCoin | *Software Engineering 2 – Group project*

- Designed and implemented a blockchain-based cryptocurrency for U of M students with a team of 4 people.
- Engineered backend services including Transactions and User Management, with features like public-key cryptography.

Procedural Terrain Generation and Editing Using Marching Cubes | *Computer Graphics 2*

- Implemented a Terrain Generator and Editor on CPU using Marching cubes and Simplex Noise in C++ and GLSL.
- Integrated 2D and 3D Simplex Noise to generate and compare resulting simple and volumetric terrains.

GPU Fluid Simulation | *Personal*

- Implemented an interactive GPU-based fluid simulator in WebGL and GLSL using the Navier Stokes Equations.

Music Genre Classifier AI | *Intro to AI*

- Wrote a training script using Keras in Python that preprocesses music audio signals into Mel-spectrograms using the Librosa library, and then uses a parallel CNN/RNN model to classify it into one of 8 genres.
- Trained locally on the Full Music Archive (FMA) small dataset with a testing accuracy of 56%.

COMMUNITY INVOLVEMENT

Member | *Women in Computer Science, .dev club* **Sept 2019 - Present**
Volunteer and Show Co-Host | *UMFM* **Nov 2018 - Sept 2019**
Peer Advisor | *International College of Manitoba* **Sept 2018 - Jan 2019**