

Akshay Sharma

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EDUCATION

Bachelor of Computer Science, Honors, Co-op | *University of Manitoba*

Jan. 2018 - Jan. 2023

- CGPA: 3.86/4.5
- Dean's Honor List (Fall '19, Winter '21)

EXPERIENCE

Software Developer Intern | *Norima Consulting Inc.*

Jan. 2022 - Apr. 2022

- Authored an OpenGL/C++ script that automates the process of designing personalized 3D printed mouth-guard molds from the 3D scan of a patient's Jaw.
- Developed a communication routine enabling remote process execution and storage of mouth-guard mold designs to provide clients with a lightweight web interface for their projects.

Software Developer Intern | *Norima Consulting Inc.*

May 2021 - Aug. 2021

- Created interactive floor plans and data tables for Android and IOS devices using React Native in TypeScript to ease the navigation and updates of fire dampers in for fire inspectors.
- Implemented data caches, request tracking, and custom database conflict resolution to enable offline asynchronous collaboration among users.

Junior Developer Intern | *Value Partners Investments Inc.*

Sep. 2020 - Dec. 2020

- Developed and optimized APIs and function apps using C# and Azure Cloud Services to automate advisor operations.
- Researched and implemented a bi-layer LSTM machine learning model using Keras, trained by transfer learning to perform time-series analysis on the account portfolios to predict growth with an RMSE value of 0.0825.

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%.

AWARDS

Undergraduate Research Award | *University Of Manitoba*

May. 2022 - Aug 2022

- Studied the "Flood Risk Analysis on Uncertain Terrains" problem following the research of Dr. Pankaj k. Agarwal with the University of Manitoba *Geometric, Approximation & Distributed Algorithms (GADA)* lab under Dr. Stephen Durocher.
- Received a monetary sum of 7000 CAD.

PROJECTS

BisonCoin | *Python, JavaScript, Vue, Docker, Nginx*

- 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.

GPU Fluid Simulator | *JavaScript, WebGL, GLSL*

- Implemented an interactive GPU fluid simulator using WebGL in JavaScript modelling the Navier Stokes Equations.

Blockchain Based Federated Learning | *TypeScript, Go, Hyperledger Fabric, TensorFlow.js*

- Coded the application logic to train local neural network updates on a peer devices authorized by registered organizations, which are averaged periodically on a blockchain using federated averaging and smart contracts.

Music Genre Classifier AI | *Python, Keras, pandas, NumPy, librosa*

- Wrote a training script using Keras in Python that pre-processes audio signals into mel-spectrograms, and then uses a parallel CNN/RNN model to classify them into one of 8 genres with 56% accuracy.

TECHNICAL SKILLS

Languages: JavaScript/TypeScript, C/C++, Python, Java, C#, SQL (Postgres), GraphQL, GLSL

Tools and Frameworks: React, Node.js, Flask, Docker, Git, ASP.NET, Microsoft Azure, MongoDB VS Code, Visual Studio

Libraries: pandas, NumPy, Matplotlib, Keras, OpenGL

COMMUNITY INVOLVEMENT

Active Member | *.DEVCLUB, and Women in Computer Science (WICS)*

Sep. 2019 - Present

Member | *Wind Energy Design Team (Electrical Division, Control Unit team)*

Oct. 2021 - Apr. 2022

Volunteer and Show Co-Host | *UMFM*

Nov. 2018 - Sep. 2019