

VEDANT VYAS

[Website](#) [Email](#) [Linkedin](#) [Github](#) [Hackerrank](#) [Phone](#)

Education

University of Alberta

Edmonton, AB

B.Sc Honors in Computer Science, 3.9/4.00 GPA

Sep 2020 - Dec 2024

- **Selected Coursework:** Hons Linear Algebra, Computer Arch, Probability & Stochastic Process, Algorithms, Advanced Hons Calculus 1 & 2, SQL, C, Intro Machine Learning, Abstract Algebra, Real Analysis, Operating System
- **Awards:**
 - * [Adas Team Academic Excellence Scholarship in Computing Science 2023](#) :
 - Awarded to the top-performing student for exemplifying academic excellence in Computing Science.
 - * [CCPC 2021](#) :
 - Secured a cash reward for ranking 4th position among 25 teams in the contest.

Experience

Arista Networks

Vancouver, BC

Software Engineering Intern

Jan 2024 - Apr 2024

- Working on optimization for OS for High performance switches in Arista
- Wrote library code that is independent of hardware and will be used to monitor jobs completion time, and created histograms for detailed analysis.

Alberta Machine Intelligence Institute

Edmonton, AB

Research Assistant, NLP Group

May 2023 - Present

- Proposed and experimented with innovative solutions in knowledge distillation, advancing broader research.
- Leveraged Python, PyTorch, NLTK, and Huggingface for optimized and precise development workflows.
- Created a [new ensemble approach](#) for AutoRegressive Transformers, that allows improved knowledge distillation.

NRC CAN & CCG, University of Alberta

Edmonton, AB

Machine Learning Engineer

May 2023 - Jan 2024

- Working jointly with NRC CAN & CCG on an initiative to develop an advanced **LiDAR transformer** model for accurate tree species identification.
- Designed and optimized machine learning models, enhancing accuracy and reliability in diverse environments.
- Aimed for real-time identification to assess wildfire vulnerability, aiding in the formulation of effective firefighting strategies.

University Of Alberta

Edmonton, AB

Research Assistant, High-Performance Computing Group

May 2022 - Aug 2022

- Collaborated with IBM to design and develop a unified **MLIR** dialect, optimizing matrix multiplication and enhancing compilation speed via the **IBM Power10 MMA** unit, resulting in improved computing efficiency.
- Employed advanced **C++** and **Tablegen** programming techniques to engineer high-quality, robust solutions.
- Created assembly (**Risc-V**) coursework, including grading scripts using multithreading and shell and animations in Python.

Personal Projects

[Meal Planner App](#)

- Developed a Full-Stack Meal Planner App using **MERN** stack (MongoDB, Express, React, NodeJS).
- Implemented automated Shopping List creation based on ingredients needed for meal plan and enhanced security through the integration of JSON Web Tokens for user authentication.

[Math TTS Latex to Speech](#)

- Developed the [project](#) using **React** for the front end and Flask for the back end.
- Implemented OCR tools for LaTeX image processing.
- Utilized **ANTLR4** to construct a custom lexer and parser for converting LaTeX to English.
- Integrated **Google's Cloud API** for speech synthesis to convert text to speech, which is then processed and displayed on the web interface.

Technical Skills

Languages: C++, Python, Risc-V, C, Regex, Java, SQL, JavaScript, CSS, HTML

Developer Tools: MongoDB, Firebase, Pandas, Numpy, open3d, nltk, Spacy

Deep Learning Frameworks: Pytorch, Tensorflow, Hugging Face