Ishaan Ratanshi

825-436-2780 | iratansh@ualberta.ca | https://www.linkedin.com/in/ishaan-ratanshi | github.com/iratansh

Education

- **University of Alberta** — Edmonton, AB
  Bachelor of Science in Computing Science, Minor in Economics — Expected 2026

Projects

- **HelpBot** | *Python, spaCy, NLTK, Chatterbot, bs4, Transformers* — May 2024 – Present
  - Leveraged spaCy for entity recognition and ChatterBot for conversation flow, achieving an **85%** accuracy in understanding user intents and generating contextually relevant responses.
  - Integrated APIs for real-time weather updates, stock and ETF information, and utilized BeautifulSoup for web scraping, ensuring accurate and timely data delivery. Enhanced data retrieval speed by **40%** to optimize user experience.
  - Trained on HuggingFace datasets for generative AI tasks, achieving a **75%** coherence score in generating contextually relevant responses. Incorporated BERT for question answering, enhancing accuracy by **25%** in answering complex queries.
- **WebEdit** | *Python, React.js, Node.js, Flask* — May 2024 – Present
  - Utilized React.js and Node.js to develop a dynamic document creation and editing full-stack web application, ensuring seamless integration and scalability for up to **10,000** concurrent users.
  - Integrated an advanced word completion feature using over **466, 000** words and Tries data structure, achieving a **50%** reduction in search time compared to using hash maps.
  - Enhanced user experience by reducing average document creation time by **25%** through real-time suggestions and efficient editing capabilities.
- **Stocker** | *Python, Swift, TypeScript, TailwindCSS, Next.js, Node.js, SwiftUI, Flask* — Mar 2024 – Jun 2024
  - Developed a full-stack application integrating real-time stock data with user-friendly interfaces in Next.js and SwiftUI, enhancing prediction accuracy by **15%** compared to with static datasets.
  - Designed and implemented Time Series Forecasting algorithms for stock prices using XGBoost and Bayesian Neural Networks, achieving a combined model RMSE of **0.0376**.
  - Utilized Optuna for hyperparameter optimization, resulting in a **20%** improvement in model accuracy.
- **Undergraduate Artificial Intelligence Society Club (Data Analyst)** | *Python, scikit-learn, pandas*
  Advanced Safety and Risk Management System for Asian Industry — Feb 2024 – Mar 2024
  - Implemented K-Nearest Neighbors machine learning algorithm for missing data imputation, achieving a **94%** accuracy rate.
  - Conducted thorough analysis of safety reports, identifying key risk factors and reducing data processing time by **30%**.
  - Utilized diverse graphical representations to efficiently communicate correlations between workplace settings and accident probability.

Technical Skills

Languages: HTML, CSS, JavaScript, TypeScript, C#, Python, Swift
Frameworks: Flask, Tk, Next.js, Node.js, Optuna, Pyro, TailwindCSS, SwiftUI, PyTorch
Developer Tools: Git, Visual Studio, Xcode
Libraries: React.js, pandas, NumPy, Matplotlib, scikit-learn, tkinter, PyQt5, XGBoost, spaCy