Bhargav Yagnik

bhargavyagnik99@gmail.com
Portfolio(chatbot),LinkedIn,Github
+1-438-924-7751
Montreal,Canada

Education

- **Concordia University** — Montreal,QC
  Master of Computer Science (Thesis) (Expected Graduation August 2023) — *Sept 2021 – Present*
  Reinforcement Learning (McGill), Algorithms, Distributed System Design, Programming & Problem-Solving
- **Symbiosis Institute of Technology** — Pune, India
  Bachelor of Technology in Computer Science and Engineering; — *July 2017- April 2021*
  Algorithms, Computer Networks, Operating Systems, Data Structures, Artificial Intelligence, Database, Big Data Systems.

Skills

- **Languages:** Python, Java, R, C++, C, SQL, NoSQL, JavaScript
- **Machine Learning:** PyTorch, TensorFlow, HuggingFace, Keras, Scikit-learn, Langchain, OpenCV
- **Data Processing and Big Data:** PySpark, Hadoop, MongoDB, PostgreSQL, Databricks, Matplotlib, Tableau, PowerBI
- **Framework / Platforms:** Azure, AWS, Selenium, REST API, Docker, GIT, Airflow, Pinecone, Jenkins
- **Certifications**: AI&ML, Deep Learning, TensorFlow Developer, Six Sigma Yellow Belt, Architecting with Google Compute Engine

Experience

- **Ericsson Canada** — Montreal, Canada
  AI Research Intern — *Sept 2022-Present*
  - **Flood, Drought Detection**: Creating lightweight-fast trainable models using ML to forecast floods and droughts in low-lying areas of several Quebec municipalities. Guided by Prof. Brigitte Jaumard and funded by MITACS. Implemented an innovative framework that utilized LSTM with a range of meteorological factors to enhance forecast accuracies by over 27% for both 1-day and 1-week predictions. Currently in the process of preparing a research paper for publication.
  - **Online ML**: Developed real-time training and forecasting models using Online ML with data streaming regularly from the IOT sensors, allowing the model to adapt to dynamic forecasting capabilities.
- **SCAAI** — Pune,India
  Research Assistant — *June 2020-June 2021*
  - **Authored**: 3 Research papers during the tenure, earning nine citations.
  - **Explainable AI - Misinformation detection**: Developed a unified domain adaptative model expanded across multiple social media to perform feature generalization for misinformation detection and Local Interpretable Model-Agnostic Explanations (LIME) for model interpretation which Improved results by 40% in F1 score.
  - **Covid Forecasting**: Implemented Time series forecasting for covid cases for the government of Maharashtra, demonstrated a full-stack application with visualization and prediction of 6 parameters for 40 days with accuracy up to 99.98% using SARIMA and Prophet algorithms and Chart.js.
  - **Alloy classification**: Led a team to implement ML models like Decision Tree, Random Forest, SVM, ANN with MLP for titanium alloys classification and obtained accuracy close to 100%.
- **SCAAI** — Pune,India
  Research Intern — *Jan 2020- May 2020*
  - **Hate-speech recognition**: Created a dataset in Hindi-English code mixed language using automated web scrapers, introduced a pipeline specific for Hinglish, and achieved SOTA results using BERT, ELMO, and FLAIR.
  - **Ethics paper**: Published a White paper on "Ethics in AI" and submitted it to TechMahindra to promote responsible development administered by rules and guidelines.
  - **Computer vision hackathon**: Placed 3rd in Syngenta hackathon where we implemented an RCNN for image segmentation in 24 hours deployed on the server to employ mobile phone for detection.

Publications

- **Explainable Misinformation Detection Across Multiple Social Media Platforms**: 4 citations
  IEEE Xplore
- **Role of Artificial Intelligence in Detection of Hateful Speech for Hinglish Data on Social Media**: 5 citations
  Conference: ICAAAIML 2020 Published in Lecture Notes on Electrical Engineering, Springer
- **Materials for Aerospace Applications: Machine Learning Methods for Titanium Alloys Classification**: 3-rd IAA/AAS SciTech Forum 2020 (3-rd IAA/AAS SciTech Forum on Space Flight Mechanics and Space Structures and Materials)

Projects

- **Decision-Transformer**: Recreated and tested a Decision Transformer model, combining transformer architecture and reinforcement learning, to make decisions using the baseline Offline RL dataset (d4rl dataset).
  Tech: Pytorch,Mujoco,Gym.
- **DocGPT**: Developed DocGPT, a ChatGPT model utilizing LangChain and vector databases to retrieve and cite relevant answers during conversational interactions
  Tech: Langchain, Pinecone, Python, GPT.
- **Stock Predictor**: Developed a stock predictor project utilizing stock data from the Yahoo API. Performed ETL (Extract, Transform, Load) processes on the data and implemented prediction using an ARIMA model. Orchestrated the pipeline using Airflow and containerized the project using Docker
  Tech: Airflow, Yahoo API, Dockers, Python.
- **YELP Analyzer**: Developed a Power BI dashboard utilizing an 11GB Yelp dataset to observe and analyze various trends within the restaurant industry. Leveraged Databricks and Azure Data Lake for efficient data processing and storage, enabling comprehensive visualization of key restaurant insights and trends..
  Tech:Azure Cloud, Databricks, PowerBI, PySpark, SQL
- **Andhadhun**: Developed an innovative hands-free PC control application using hand gestures and voice commands for differently abled users. Improved accessibility and convenience by enabling desktop control, hands-free typing, and voice recognition. Eliminated the need for external keyboards, resulting in a seamless user experience.
  Tech: OpenCV, Python, PyAutoGUI
- **Robinhood**: Created Robinhood, an Android app connecting users with NGOs to share and donate old clothes. Leveraged Android and Firebase for seamless user interaction, real-time data management. Recognized by NGO.
  Tech: Android, Firebase, Figma

Awards and Recognition

- **MITACS Fellowship** for Research under the accelerate program($20k), Concordia University : Sept 2022.
- **Scholarship** Awarded for Academic Performance, Symbiosis Institute of Technology, India: July 2020.
- **Hackathon** Won an award for securing top-10/5000 least-error in cricket score prediction at IIT-Madras.
- **Elected Team Lead** Managed 20 photographers for various college events and coordinated with organizers.