Name

Phone no. | email@gmail.com | github.com

EDUCATION

XX University USA
MS Information Science, Big data specialization *Aug. 2021 – Apr. 2023*
Cross Registered to Intermediate Deep learning and Multi-modal Machine Learning course in XY university

XYZ University India
B.Tech Computer Science and Engineering *July 2015 – May 2019*

LANGUAGES AND TOOLS

Python, Java, SQL, PL/SQL, JavaScript, HTML, CSS, R, PERN stack (postgresql, Express, React, Node.js), MongoDB, TensorFlow, PyTorch, NEAT-python, Pygame, CUDA

PROFESSIONAL EXPERIENCE

Researcher: Healthcare AI January 2023 – Present
XX University *USA*
- Collaborated with UPMC and Veterans Affairs to collect and pre-process data.
- Developed a XGBoost model (96% accuracy) for detecting hearing loss, traumatic brain injury(TBI) and PTSD in war veterans.
- Achievement: Proposed a new simpler 3 step test to identify hearning loss, TBI and PTSD in veterans. Submitted research findings to the American Medical Informatics Association (AMIA) conference.
- Currently working on a new project which uses ML-based analysis of genome sequencing data to identify genetic variants linked to severe back pain.

Graduate Teaching Assistant August 2021 – December 2022
XX University *USA*
- Mentored and supported over 500 students in the algorithms and advanced algorithms course.
- Collaborated with faculty to develop effective course materials and assisted with lecturing, grading, and facilitating class discussions.

Senior Analyst, Software Developer August 2019 – December 2020
Capgemini *India*
- Received 3 months training on Oracle apps, Oracle cloud, SQL and PL/SQL.
- Worked as a data analyst for a large French fashion brand. Developed scripts to collect data from across departments, perform analysis and present results in clear visualizations to draw conclusions, about the success of current methods.
- Improved demand forecasting that reduced back-orders to retail partners by 21%.
- Successfully lead a team of 4 developers to complete the migration of the legacy system to the Oracle cloud, with minimal downtime for the client despite challeges due to COVID-19.
- Promoted to the Centre of Excellence where I worked in research on chat-bots for a German PSU.
- Developed an app using the Mendix low-code platform for the Mumbai Government during the pandemic. The app enabled users to locate available hospital beds for COVID-19 treatment.

Software Developer Jan 2019 – July 2019
A small startup *India*
- Led a team of 5 developers in designing, developing, and deploying an automatic essay grading tool for an IELTS coaching institute client. It achieved 85% accuracy in grading essays, reducing the time taken to grade each essay from 15 minutes to 2 minutes.
- I developed the grading script taking 23 parameters into account, such as relevance, coherence, cohesion, and keywords.
- Developed the tool using Tensorflow and Python, leveraging Django and Google Cloud Platform for deployment on the client's website.

Research Experience

Independent study: Explainable AI in Autonomous Vehicles January 2023 – Present
Some Lab, XX University *USA*
- Collaborating closely with researchers from Honda to investigate Explainable AI in the context of autonomous vehicles.
- Developed a YoloV8 and R-CNN architecture that determines the appropriate actions for autonomous vehicles while providing real-time explanations for those actions.
- Trained the model using the BDD dataset as well as a proprietary dataset obtained from Honda's advanced research.
- Conducting an ongoing study to explore the impact of explanations on human trust in autonomous vehicles. Planning to publish the research findings by the end of the summer term.

Independent study: Crashes in Autonomous Vehicles July 2022 – Jan 2023
Some Lab, XX University *USA*
- Developed an NLP Pipeline to automate the extraction and categorization of crash causes from Autonomous Vehicle (AV) crash reports.
- Analyzed the impact of various factors on the type and severity of crashes using the extracted data.
- Submitted a paper based on this research to the HFES 2023 conference, which was accepted for presentation. Will be presenting a lecture on the research findings at the conference in Washington DC on October 23rd.

Automatic facial, gender and emotion recognition | *CNN, Tensorflow, Keras, Python*
- Developed an CNN architecture to detect human emotions in real time. The model can detect 33 human emotions at 67% accuracy.
- Published results in the XXX journal.
- Github link and link to paper

Projects

AI Art Turning Test | *PyTorch, ResNet50, Python*
- Developed a model to identify AI generated art tuning ResNet50 model pre-trained on ImageNet
- Trained the model on a dataset of 2294 AI-generated images and 3574 human-art images, achieving a validation accuracy of 90% after 16 epochs.
- Further improved the model by experimenting with knowledge distillation techniques, resulting in a smaller model with 87% accuracy and 25% fewer parameters.
- Github link

Tetris AI | *TensorFlow, Genetic algorithm, NEAT-python, Pygame, Python*
- Developed two agents, a single player agent and a competitive agent
- Trained model using genetic algorithm for thirty generations.
- Achievements: Single player AI can play indefinitely. Multiplayer AI outperforms humans.
- Github link

Wordle 1 | *Python, data scraping*
- Performed word simulation to create an index for possible distribution of results.
- Pulled player results from twitter to observe patters of results. Compared real results with simulations.
- Achievements: Predict the word for each day in the first attempt with 100% accuracy.
- Github link

Research paper search engine | *Java, Lucene, Elasticsearch, Spring boot*
- Built an IR system to enable search functionality on the ABC portal, a departmental portal with over 4 million research papers.
- Implemented indexing, keyword extraction, ranking, smoothing, relevance feedback, and other IR techniques.
- Successfully developed a full-stack application with several filters like region, abstract, authors, keywords and more. The system returned ranked results in under 2 seconds.
- Github link