Varun Totakura

(848) 667-6729 — varun.totakura@gmail.com — varuntotakura.github.io — Google Scholar @ZbVUfuYAAAAJ

Professional Summary

Passionate Software/ML Engineer with over 4 years of professional experience. Developed ML/Active Learning algorithms as a Research Assistant while pursuing a Master's degree. Excellent team player and individual contributor with strong interpersonal skills, committed to achieving project objectives efficiently.

Technical Skills

- Languages: Python, Go Lang, C, C++, Java, JavaScript, R, PySpark
- Modules: PyTorch, Tensorflow, Dask, Numpy, Pandas, Scikit-Learn, FastAPI, OpenAI
- Platforms: GitLab, HuggingFace, Docker, Kafka, Altreyx, Qlik, Power BI, Tableau, SnowFlake, BigQuery
- Databases: PostgreSQL, MySQL, BigTable, MongoDB, VectorDB - PineCone
- Clouds: ServiceNow, Google Cloud, Microsoft Azure, Amazon Web Services
- Generative AI: LangChain, RAG, GPT, Gemini
- Tools: Microsoft AI Studio, Google Cloud Vertex AI, AutoML, DataProc, DataFlow, DialogFlow, Git, Jira
- Operating Systems: Windows, Linux

Professional Experience

Machine Learning Engineer - Open Source Contributor, United States   *August 2024 – Present*
- Updated documentation and reviewed code to improve project quality and usability.
- GitHub Profile: https://github.com/varuntotakura

AI/ML Engineer - Graduate Research Assistant, Florida State University, Tallahassee, FL *August 2022 – August 2024*
- Analyzed the behavior of elderly individuals affected by Alzheimer's Disease and crafted an innovative architecture combining TCN, CNN, and GRU while reducing domain disparity enhanced it's performance by 35%.
- Predicted model correctness by leveraging Deep Learning techniques and working across approximately 10 diverse datasets totaling over 300,000 records.
- Crafted and implemented an Active Learning Algorithm for Imperfect Oracles with LLM's in an optimized fashion by leveraging parallel computing techniques with Dask to achieve a remarkable 4 times reduction in execution time.
- Designed a Natural Language Processing solution utilizing BERT for Bug Localization by processing over 150,000 text records gathered from various social media sources and identifying precise bugs within code snippets.

ServiceNow Developer - Systems Engineer, Tata Consultancy Services, Hyderabad, India   *July 2020 – July 2022*
- Communicated with cross-functional teams to develop intelligent chatbots using Azure Bot Service and Virtual Agent to streamline operations and enhance user interactions by fetching data from 9+ sources.
- Integrated ServiceNow with 5 types of external platforms using REST, SOAP, and Email in SDLC - Agile methodology.
- Developed scalable ServiceNow integrations by automating various processes which significantly increased the productivity time by over 45%.
- Played a key role in a migration project, used integrations and automated flows to transfer over 1.5 million records of data within a short period.
- Crafted and managed numerous workflows, Service Portal, ACL's, Scheduled Jobs, Reports and ensured a smooth functioning of more than 15 applications.
- Ensured seamless data flow across multiple ServiceNow instances, as well as between ServiceNow and external platforms facilitating efficient operations reaching about 95% accuracy.
- Collaborated in the project's R&D endeavors by designing machine learning-driven automation with AI Studio, resulting in solutions that enhanced task efficiency by an impressive factor of 20.
- Served as a peer leader for a group of 11, monitoring team performance and implementing strategies that boosted individual performance by more than 5 fold.

Cyber Smart Intern, Telangana State Police, Hyderabad, India   *September 2019 – October 2019*
- Worked on enhancing the performance of facial recognition using Google Cloud Vertex AI and AutoML by improving accuracy by 1.5 times.
- Explored the nefarious world of phishing, trojans, worms, SQL injections and tried to penetrate a safe virtual environment in 7 different ways.

- Utilized ML algorithms with Python to implement a malware detection system in a Windows environment which gave about 85% accuracy.

Software Developer Intern, Johan Brown Pvt Ltd, Hyderabad, India *October 2016 – April 2017*
- Studied data analysis and visualization, wielding powerful tools like Tableau to analyze patterns in 5000+ conference paper submissions.
- Implemented a diverse range of applications in Java, and JavaScript for design adjustment in more than 1500 ePub books.
- Embraced the power of web scraping and automation using Python to automate the changes in ePub books which increased time efficiency by 15 times.

Research Publications

- Active Learning with Imperfect Oracles using Text Data. *TPAMI - Expected 2024*
- MetaErr: Predicting Error Patterns in Deep Neural Networks using the Meta Model Data. *BMVC - Expected 2024*
- Analysing the behavioural patterns in elderly people suffering with Alzheimer's Disease. *TACCESS - Expected 2024*
- Master's Thesis - A Study on Deep Learning Models for Real World Applications. *August 2024*
- Prediction of Transmittable Diseases Rate in a Location Using ARIMA and GARCH. *November 2021*
- Improved Safety of Self-Driving Car using Voice Recognition through CNN. *October 2021*
- Prediction of Stock Trend for Swing Trades using Long Short-Term Memory Neural Network Model. *March 2020*
- Prediction of Animal Vocal Emotions using Convolutional Neural Network. *February 2020*
- An Integrated Approach to Sentiment Analysis using Machine Learning Algorithms. *April 2020*
- Published another 5 research papers and survey papers. *2019 - 2020*

Awards and Achievements

- Three times Star of the Month, Tata Consultancy Services. *2021 - 2022*
- Five times On the Spot Awards, Tata Consultancy Services. *2021 - 2022*
- Learning Achievement Award, Tata Consultancy Services. *2021 - 2022*
- Ranked 2nd Topper in Academics, Guru Nanak Institutions. *2019*
- Google Scholar - https://scholar.google.com/citations?user=ZbVUfuYAAAAJ *2019 - 2024*
- ORCID ID - ⓘ https://orcid.org/0000-0002-5114-5205 *2019 - 2024*

Certifications and Trainings

- Completed Deep Learning Specialization taught by Andrew Ng and other instructors. *2020*
- Completed altogether 10 Coursera courses on Machine Learning, Customer Analytics and more. *2020*
- Ethical Hacking, IOT, and Web Development training by Imparta. *June 2019*

Education

Florida State University, Tallahassee, Florida, United States
Master of Science in Computer Science (Thesis) *August 2024*

Jawaharlal Nehru Technological University – Guru Nanak Institutions, Telangana, India
Bachelor of Technology in Computer Science & Engineering *September 2020*