Varun Totakura

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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
- Platforms: PyTorch, Tensorflow, HuggingFace, Apache Kafka, Altreyx, Qlik, Power BI, Tableau, SnowFlake, OpenAI
- Databases: PostgreSQL, MySQL, BigTable, NoSQL
- Operating Systems: Windows, Linux
- Clouds: ServiceNow, Google Cloud, Microsoft Azure, Amazon Web Services
- Tools: Microsoft AI Studio, Google Cloud Vertex AI, BigQuery, AutoML, DataProc, DataFlow, DialogFlow, Git, Jira

Professional Experience

AI/ML Engineer - Graduate Research Assistant, Florida State University, Tallahassee, FL   *August 2022 – Present*
- 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.
- Engaged in Active Learning with Imperfect Oracles, implemented in an optimized fashion by leveraging parallel computing techniques to achieve a remarkable 24-fold reduction in execution time from 8 hours to just 20 minutes.
- 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.

Software Developer (ML) - Systems Engineer, Tata Consultancy Services, Hyderabad, India   *July 2020 – July 2022*
- Communicated with cross-functional teams to develop intelligent chatbots using Azure, AI Studio 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 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.
- 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, monitoring team performance and implementing strategies that boosted individual performance by more than 5 fold.
- Researched Power Automate, Azure, and Google Cloud and revamped ServiceNow to include a robust history for developing consistency across 11 types of integrations.

Machine Learning Intern (Cyber Security), 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*