Sai Ganesh Pala Shanmugam

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EDUCATION

Memorial University of Newfoundland   **September 2023 - January 2025**
Masters in Artificial Intelligence   St. John's, NL
- Current GPA: 3.90/4.00
- Board Director for AI, Graduate Student Union (November 2023 - November 2024)

Amrita Vishwa Vidyapeetham   **July 2019 - July 2023**
B.Tech, Computer Science Engineering with Artificial Intelligence   Coimbatore, India
- GPA: 8.68/10.00
- Member of IoT club from August 2021 - February 2023

SKILLS

- **Libraries:** Numpy, Matplotlib, Scikit-learn, OpenCV, Pandas, PyTesseract, Spacy, Plotly
- **Frameworks:** Flask, Node.js, React.js, Pytorch, Tensorflow, Kivy, Keras, Rasa, Express.js, HuggingFace
- **Tools:** Docker, Git, CI/CD, AWS RDS, AWS EC2, Kubernetes, Jupyter
- **Languages:** Python, Java, SQL, JavaScript, Ruby, MATLAB, C, C++, HTML

WORK EXPERIENCE

Panlingua   **May 2022 - August 2022**
Computational Linguist Intern for NLP   Delhi, India
- Verified the creation of accurate language datasets for hate speech classification by my team.
- Trained and evaluated multiple data models and neural models, improving accuracy by 9%.
- Developed SVM and BERT models for English and Spanish text classification achieving an accuracy of 77%.

PUBLICATIONS

- IEEE Conference paper
  P S Sai Ganesh, Kabilan N, Adithan P, Sajith Variyar V V, Sowmya V, "[Artificial Intelligence Framework for COVID protocol detection](#)", 2022, International Conference on Computing, Analytics and Networks.

PROJECTS

Machine Learning-Based Task Tracker   **October 2024 - Present**
- Developed a full-stack web app using React and Node.js using secure user authentication with JWT tokens.
- Integrated Rasa for natural language understanding for automatic task parsing and intent recognition
- Configured secure DB connectivity with AWS RDS (MySQL) via an EC2 Bastion Host using SSH Tunneling.
- Containerized the application using Docker facilitating seamless deployment and development workflows

AI-Driven Grocery Management System   **September 2024 - November 2024**
- Trained a Faster R-CNN model for automatic text region detection in receipts, achieving an 81.2% F1-Score.
- Built a recipe recommendation system by training custom GPT-2 model on scraped food.com data.
- Designed a mobile UI using Kivy, streamlining the integration of OCR and recommendation systems.

Skew Detection in Receipts using OCR   **September 2022 - December 2022**
- Created custom datasets with 5 resolutions, accounted for data annotation, cleaning and validation.
- Performed A/B testing using 10 SOTA deep learning models and documented results.
- Enhanced OCR accuracy by 43% for receipts skewed by up to eight degrees in either direction.