Alfred W. Jacob

CONTACT INFORMATION

GitHub: www.github.com/alfred100p LinkedIn: www.linkedin.com/in/alfred-william-jacob
✉ Email: alfredwilliamjacob@gmail.com Phone: +91 9072709659

RESEARCH BACKGROUND

Natural Language Processing │ Reinforcement Learning │ Computer Vision

EDUCATION

Birla Institute of Technology and Science, Pilani (BITS Pilani), India   2018–2022 (exp.)

- B.E.(Hons.) in Department of Computer Science, GPA: 3.05/4.
- Bachelor's Thesis under Prof. Peter Stone (University of Texas at Austin)
- Teaching Assistant in Deep Learning, Selected as one of the three TAs from all students.

TECHNICAL SKILLS

- *Programming Languages*: Python, PyTorch, TensorFlow, Keras, C/C++, Flutter.
- *Certifications*: From Data to Insights Specialization- Sponsored by Google.

RESEARCH EXPERIENCE

- **University of Alberta**   Oct 2021–Present
  Working under Prof. Lili Mou (UoA), for applying Reinforcement Learning to Natural Language Inference.

- **Anuradha and Prashanth Palakurthi Centre for Artificial Intelligence Research (APPCAIR)**   Aug 2021–Present
  Birla Institute of Technology and Science, Pilani.
  Working under Prof. Navneet Goyal (BITS Pilani) and Prawaal (Infosys, BITS Pilani), on a Project in Machine Translation and Dataset Generation for low resource Indic Languages.

- **University of Texas at San Antonio**   Jun 2021–Present
  Working under Prof. Heena Rathore (UTSA), in modelling uncertainity using Bayesian Reinforcement Learning.

- **Artificial Intellegence/ Machine Learning Lab**   Dec 2020–Oct 2021
  Birla Institute of Technology and Science, Pilani.
  ○ Worked under Prof. Kamlesh Tiwari (BITS Pilani) and Prof. Sumit Kalra (IIT Jodhpur), to create a novel image feature based on relative object positioning and causal inference.
  ○ Achieved a 1.02 CIDEr-D and 0.33 BLEU-4 score improvement from the base model on the Karpathy Split of the Microsoft-COCO Dataset.

- **Web Intelligence and Social Computing Laboratory**   Mar 2020–Dec 2020
  Birla Institute of Technology and Science, Pilani.
  ○ Worked under Prof. Yashvardhan Sharma and developed Machine Learning Models using transformers, stacked embeddings and work vectors for detection of hate speech in Tweets.
  ○ Achieved F1-weighted score of 0.90 for coarse-grained hostility detection and 0.54 F1-weighted score for fine-grained hostility identification.

SELECTED PUBLICATIONS

1. Siva Sai *et. al,*. "Stacked Embeddings and Multiple Fine-Tuned XLM-RoBERTa Models for Enhanced Hostility Identification". *CONSTRAINT 2021, Presented at AAAI*, 2021.

WORK EXPERIENCE

- **Samsung Research Institute**   Jun 2021– Jul 2021
  Research Intern, New Delhi.
  ○ Built a Collaborative Filtering-based Recommender System, which uses custom-engineered features which are passed into a neural network to generate predictions.
  ○ Recommendation feedback incorporated with gamma value similar to reward in Reinforcement Learning and integrated model with a DAPP and Blockchain Network.

- **Tamil Nadu State Government, funded by the World Bank**   May 2020– Jun 2020
  Data Analyst Intern, Chennai.
  ○ Created a county-wise model via Genetic Algorithm trained on tuberculosis data (yearly basis) and COVID-19 data (daily basis) separately.
  ○ Developed a tool to predict number of cases for diseases and provide improved visualizations allowing officials to make better decisions.

OTHER ACHIEVEMENTS

- Contributor to OpenAI's gym repository.
- Student Volunteer for EMNLP-2021.