AKASH PINTUKUMAR DAS

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EDUCATION

Indiana University Bloomington, Bloomington, United States　　　　　　　　　**August 2023 - May 2025 (Expected)**
Master of Science in Data Science　　　　　　　　　　　　　　　　　　　　　　　*(GPA – 3.75)*
Relevant Courses: Advanced Natural Language Processing, Elements of Artificial Intelligence, Computer Vision

University of Mumbai, Mumbai, India　　　　　　　　　　　　　　　　　　　**August 2017 - May 2021**
Bachelor of Engineering in Electronics and Telecommunication　　　　　　　　　　　*(GPA – 3.66)*
Relevant Courses: Neural Network and Fuzzy Logic, Image Processing and Machine Vision, Database Management System

PROFESSIONAL EXPERIENCE

Indiana University, Bloomington, Indiana　　　　　　　　　　　　　　　　　**June 2024 - Present**
Research Assistant – IUB Psychological & Brain Sciences Department | Python, Computer Vision, Image Processing, GIST Analysis

- Led a comprehensive and detailed research project on the development of the visual cortex in infants, focusing extensively on analyzing the neural changes and developmental milestones throughout the first year of life, utilizing advanced neuroimaging techniques and longitudinal study methods.
- Leveraged Python for advanced image processing, employing techniques like GIST and Clutter analysis to systematically evaluate and compare visual experiences across various ages and cultural backgrounds.
- Developed experimental protocols assessing age and location impacts on infant visual perception, improving data accuracy by **25%** and enhancing cognitive outcome modeling by **30%**, highlighting environmental influences on early development.

LTIMindtree Limited – Formerly Larsen and Toubro Infotech Limited, Mumbai, India　　　**July 2021 – July 2023**
Data Scientist – Life Sciences Department | Python, Flask, Teradata, Oracle

- Spearheaded the implementation of a **Robotic Automation Process** for seamless data injection into Informatica, achieving a 70% reduction in manual errors and boosting overall process efficiency by 85%, resulting in significant time savings.
- Implemented proactive measures as a **Database Administrator**, resulting in a **50%** reduction in unplanned downtime and an 80% enhancement in query performance for the Teradata Support team.
- Pioneered the development, deployment, and integration of high-impact chatbots for EDL and EDW teams on AWS, reducing support ticket resolution time by 70%, increasing productivity by 50%, and enabling real-time responses through **API connections**.

Mastersoft ERP Solutions, Nagpur, India　　　　　　　　　　　　　　　　**December 2020 – June 2021**
Research and Development Intern | Python, Flask, Keras, BERT models, SSL Architecture

- Designed and implemented a chatbot service that automated **60%** of routine customer interactions, saving the support team **150 hour**s per month previously spent on manual responses and inquiries.
- Developed and fine-tuned Transformer models, including **BERT and DistilBERT**, using TensorFlow, to enhance model performance and achieve targeted outcomes in natural language processing tasks.

ACADEMIC PROJECTS

Mental Health Analyser | *Speech Processing, Deep Learning, LIbrosa, Natural Language Processing*

- Engineered a robust mental health application using Python and TensorFlow to predict emotions by analyzing **speech, facial expressions, and text data,** utilizing advanced tools like Librosa, OpenCV, and BERT for comprehensive emotion detection.
- Presented the research titled **"Emotion Detection Using NLP and ConvNets"** at the **IDSCS 2022** Conference, with the proceedings published by Springer, highlighting the application's high accuracy achieved through sophisticated model optimization**.**

Multi-Language Auto–Translation using Natural Language Processing | *Transformer Models, Python, Keras*

- Engineered an NLP-based auto-translation system featuring script auto-detection and high-accuracy English translations, utilizing transformer-based **seq2seq** models for language detection and translation with over **83%** and **85%** accuracy, respectively.
- Improved translation accuracy by utilizing **encoder-decoder frameworks** with **self-attention mechanisms**, training on diverse language scripts to ensure robust auto-detection and contextually precise translations.

PUBLISHED PAPERS

- Emotion Detection Using Natural Language Processing and ConvNets (**ISBN: 978-981-19-2211-4**) (**DOI: 10.1007/978-981-19-2211-4_11**)
- Smart Shopping with Intelligent Sales Prediction using Machine Learning (**ISBN: 978-93-5391-770-8**)
- IoT-based Smart Parking System (**ISBN: 978-93-5346-369-4**)

SKILLS

- **Technical Skills –** Database Management, Data Visualization, Machine Learning, Programming, Computer Vision, Transformer Models, Natural Language Processing, CI/CD Pipelining, Speech Processing, Diffusion Models, Cloud Services
- **Data Skills –** TensorFlow, PyTorch, Scikit-Learn, Amazon Web Services, Azure Web Services, MYSQL, Teradata, Flask, Django, MYSQL, OpenCV, Librosa, Convolution Neural Networks, BERT, GPT, Vision Transformers

CERTIFICATIONS

- DeepLearning.AI TensorFlow specialization on Coursera
- Natural Language Processing in TensorFlow certification on Coursera
- Convoluted Neural Networks in TensorFlow certification bydeeplearning.ai
- Machine Learning by Andrew NG certification on Coursera