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EXPERIENCE

- **Wells Fargo** Hyderabad, India
July 2022 - Current
 - **Impactful Leadership Initiative:** Successfully **led team** and Development (R&D) of an advanced Facial-Recognition based payment system as the **Scrum Master**, demonstrating effective leadership and technical skills.
 - The project's remarkable achievements and contributions were highly recognized and appreciated by the organization's leadership (**CTO, Directors & Principal engineers**)
 - **Model Validation and Review:** Part of WF **1 Trillion\$+** Assets under management Home Lending team which does quantitative model validation to analyze and manage risks for different financial market scenarios.
 - Conducted comprehensive validation and review to manage risks of various financial models for **10-100B\$ portfolios**. (including risk models, ML models, time series, & statistical models)
 - **Quantitative Risk Assessment:** Personally responsible for Quantitative Risk Assessment of different models ensuring reliability and effectiveness.
 - This involves stress testing(accuracy, effectiveness, and reliability), scenario analysis, and sensitivity testing to evaluate the model's robustness under different market conditions.
 - **Tools & Tech used:** Python, Pyspark, Hadoop, Scikit, Regressions, Classifiers, Decision Trees, Time series, CNNs
- **Nanyang Technological University** Singapore
Jan 2022 - July 2022
 - **Text Generation Pipeline:** Built a pipeline for text generation and named entity identification to help streamline and accelerate the research & development process.
 - **NER Inference Service:** Developed Named Entity Recognition Services using Large Language Models to extract entities and further build the Automatic Speech Recognition System for inference.
 - **Medical event extraction:** Worked on various transformer and ensemble machine learning algorithms to build a solution for Contextualized Medication events and drug Extraction for the **Harvard N2C2** challenge.
 - **Research Papers Published:** Presented **MedBERT: A Pre-Trained Language Model for Biomedical Named Entity Recognition** (based on Bidirectional Encoder Representations from Transformers) at APSIPA 2022, Thailand
- **Confetto (<https://confet.to/>)** Singapore
May 2021 - December 2021
 - **Automated image generation:** Led the development of an Automated image generation pipeline, using novel Machine learning techniques - building research-based ensemble(CNN and Deep Learning) and hybrid models(ML & DL).
 - **Productionizing the service:** Built service architecture and put it into production while **decreasing production timings heavily by 1200% (from 3 minutes to under 15 secs)**.
 - **Caption Generation Service:** Engineered an innovative text generation pipeline, and automated the process of transforming raw brand text to great social media stories.
 - **Tech stack used:** ML: NLP Models, CNNs, SVMs, XGBoost, Trees; Frameworks: Tensorflow, Keras, Huggingface, FastAPI, Scikit, NLTK, Spacy; Tools: MongoDB, DynamoDB, AWS, Tensorboard, GIT, nginx.
- **Upwork (<https://www.upwork.com/>)** Remote
Mar 2020 - May 2021
 - **Top Rated Freelancer for Machine Learning (out of 16 Million)-World's biggest freelancing Platform :**
 - * **Ads Copy Generation with GPT-3 / Transformer:** Engineered innovative products leveraging GPT-3 and Transformer models to generate compelling advertising copy.
 - * **Advanced Natural Language Processing Models:** Developed models for extracting intents, sentiments, similarity, & performing entity recognition from textual data, addressing diverse NLP challenges.
 - * **Data-Driven Insights and Automation:** Utilized mined data to provide valuable insights and address real-world issues, automating manual language processes for increased efficiency.
 - * **Fine-Tuned GPT-3 / Transformer Models:** Constructed Natural Language Generation products using state-of-the-art GPT-3 and Transformer models, fine-tuned for optimal performance.
 - **Some of the major Machine Learning freelancing projects include :**
 - * **Natural Language Generation:** Leveraged GPT and Huggingface-based Transformer models for sophisticated text generation.

- * **Email Course Open Rate Optimization:** Applied Natural Language Processing and Machine Learning techniques to enhance open rates through email content analysis.
- * **Social Listening via Twitter Feed Analysis:** Utilized advanced NLP techniques for in-depth analysis of Twitter feeds, extracting valuable insights from social conversations.
- * **Retail Sales Forecasting with ARIMAX:** Engineered a predictive model integrating regional social media data and sentiment polarity analysis for accurate retail sales forecasting using ARIMAX.

- **SlayerAI (<https://www.slayerai.com/>)**
ML Developer and Researcher

Toronto, CA
Jan 2021 - May 2021

- **Project Course - NLP Paraphrasing and Text engagement prediction:** Led the development of SlayerAI's state-of-the-art Natural paraphrasing and post-engagement conversion product.
- **Natural Language Generation Service:** Built end-to-end SOTA **Transformer** models pipeline that helps users predicts the engagement of their headline, customized to their unique audience
- **MLOps Impact:** Reduced total production timings of large AI models by **1800%**, from 1.5 minutes to under 5 secs.
- **Tech stack used:** ML : Transformer models - Roberta, BERT, T5, GPT-2, GPT-3, Seq-Seq models, LSTM (Training, fine-tuning & customizing); Style transfer & Neural Machine Translation techniques; Productionizing : ONNX, knowledge distillation; Frontend : JS, HTML, CSS; Backend : Flask, FastAPI, nginx, GCP, AWS;

- **Rural Handmade (<https://ruralhandmade.com/>)**
ML Intern

London, UK
May 2019 - Nov 2019

- **Project Course - Building custom recommender system:** Lead the team for development of Recommender System using ML models (Keras and Tensorflow) for Dynamic prediction of Online Product sales.
- **Software Pipeline impact:** This project Automated the process of product research for market feasibility of all the products available online.

EDUCATION

- **Birla Institute of Technology and Science, Pilani** Rajasthan, India
Master of Science & Bachelor of Engineering - Department of Physics & Mechanical Eng. August 2017 - July 2022

Relevant Courses: Machine Learning, NLP, Computer Vision, Data Science, Probability & Statistics, Computer Programming

HONORS AND AWARDS

- **Winner of Smart India Hackathon** organized by Ministry of HRD, Govt. of India - May, 2019
Won Smart India Hackathon organized by Minister of Human Resource development, India's Biggest Hackathon amidst **200,000+** students, under Ministry of MSME category, Government of India
- **Runner's up at BITS Innovation Challenge** by MEA, BITS Pilani
Built Smart Parking system leveraging Computer Vision to bring innovation in the transportation industry.
- **Open Source Contributor at Langchain** - maintaining the framework for developing applications powered by large language models.

SKILLS SUMMARY

- **Languages:** Python, C, C++, HTML, CSS, JS
- **ML Models:** Transformers, CNNs, Regression, Rules-Based Models, Classifiers, Time series, Recommendation systems
- **Frameworks:** Pyspark, Scikit, NLTK, TensorFlow, Keras, Huggingface, Flask, FastAPI
- **Tools:** MongoDB, DynamoDB, AWS, Tensorboard, GIT, nginx, PostgreSQL

POSITION OF RESPONSIBILITIES/VOLUNTARY

- **Entrepreneurship:** Part of Founder Institute Accelerator(Palo-Alto) for building Sonicmail;(Entrepreneur First Dropout)
- **YouTube Channel:** Dedicated channel for providing invaluable insights into the essentials of Machine Learning & MLOps.
- **Toastmasters International:** Vice President Education for Stagecoach Toastmasters Club with Dynamic Leadership path
- **Professional Blogger:** With a broad readership, surpassing an impressive milestone of over 1 million views.
- **Open Source Contributions:** Volunteer at Swecha, actively contributing to the advancement of Free and Open Source Software development.