Nikitha Srikanth

alt-nikitha.github.io | nikithasrikanth0@gmail.com | linkedin.com/in/nikithasrikanth | +91 7899165902

EDUCATION

R.V. College of Engineering   Aug 2018 - Aug 2022
B.E. Computer Science and Engineering, GPA: 9.27/10   *Bangalore, India*

WORK EXPERIENCE

Experience Intelligence - Machine Learning Engineer   May 2023 - Present
Adobe Systems India Pvt. Ltd.   *Bangalore, India*

- Adobe GenStudio
  * Generated insights for beta customers; Built a Proof-of-Concept of content recommendations using GenStudio Insights for Adobe Express that showed +100% sign up CTA clicks, +65% marquee CTA clicks, +22% template clicks, +37% downloads, +33% MAU in an A/B test.
  * Trained multi-lingual models to extract marketing features from textual advertisements for GenStudio Insights
  * Led intern projects for improving trained model quality and integrating model explanations that align with human explanations 15% more than traditional explanation methods.

Media and Data Science Lab - Machine Learning Research Associate   July 2022 - May 2023
Adobe Systems India Pvt. Ltd.   *Noida, India*

- Adobe Express [6]
  * Metadata Asset Search - Developed search suggestions for Adobe Express that enable users to better search for assets in templates. These search suggestions brought about 8% more traffic in the first week with users being 15% more likely to export the creation and stick through the whole workflow.
  * Hashtag and Caption Recommendation for Express Creations - Trained a model using low-rank adaptation and human preference feedback to generate hashtags and captions for Express creations
- Dynamic Chat [7]
  * Developed chat summarization pipeline with guardrails for Adobe's enterprise customers chat workflows
  * Developed a hallucination detection system for summarization which is used across Generative AI products in Adobe
- Contextual Alchemy [5][1]
  * Developed a system with LLMs, web-search, and fact-checking to align and personalise examples in online text content with varied reader interests to make the online reading experience more accessible and relatable.

Media and Data Science Lab - Research Intern   Jan 2022 - July 2022
Adobe Systems India Pvt. Ltd.   *Remote, India*

- Research on understanding user intent in enterprise search systems through clarification questions and search suggestions.
- Developed a solution that quantifies desirable properties of search queries to provide quality search suggestions for enterprise search systems without sufficient user logs. (can recover 33% of search logs without access to it)

Media and Data Science Lab - Research Intern   May 2021 - July 2021
Adobe Systems India Pvt. Ltd.   *Remote, India*

- Research on embedding hierarchical information in hyperbolic space for content recommendation.
- Trained hierarchical topic models that beat state-of-the-art solutions in terms of coherence, diversity, and granularity
- Developed a method for topic labeling using embeddings in hyperbolic space [2][3][4]

Research Intern   Aug 2020 - May 2021
Indian Space Research Organization (ISRO)   *Remote, India*

- Developing an end-to-end deep learning framework for multi-spectral satellite image semantic segmentation and synthetic dataset generation for several image classes.
- Implemented an unsupervised approach with CNNs and super-pixel clustering of images with an 82% accuracy on Multi-label Classification.
- Developed a scalable Conditional Generative Adversarial Network (GAN) using threshold-based training seeds, significantly lowering training sample creation and generation costs.

Selected Publications and Patents

1. Contextual Alchemy: A Framework for Enhanced Readability through Cross-Domain Entity Alignment, *Poster in **NeurIPS 2023 Workshop** on Machine Learning for Creativity and Design*

2. HyHTM: Hyperbolic Geometry-based Hierarchical Topic Model, *Findings of the Association for Computational Linguistics: **ACL 2023***

3. Interpretable & Hierarchical Topic Models using Hyperbolic Geometry, *16th Women in Machine Learning* **NeurIPS 2021 WiML Workshop**

4. Hierarchical Topic Model With an Interpretable Topic Hierarchy (Patent published)

5. Generating Alternative Examples for Content (Patent granted)

6. Digital Content Analysis - Causal Content Design (Patent granted)

7. Generative Artificial Intelligence Powered Response Generation, Validation, and Augmentation (Patent granted)

Undergrad Projects

Deep Traffic Analysis (in collaboration with DRDO) | *Python, PyTorch*   June 2021 - Oct 2021
- Parsing network packets to extract certificate information
- Simulated and parsed DNS over HTTPS (DoH) packets from network traffic to be used as a dataset for training a time-series model for DoH packet detection and differentiating between malicious and benign DoH

Interpretable Question Answering for Privacy Policies. | *Python, Tensorflow*   Feb 2021 – May 2021
- Developed a Question Answering system for Privacy Policies using Deep Learning.
- Optional analysis of output through interpretability methods including saliency maps and perturbation analysis

News Media Bias Detection System | *Python, PyTorch, Flask*   Oct 2020 - Nov 2020
- Developed a fine-tuned BERT model for multi-classification of political bias on news articles, resulting in an F1 score of 0.972.
- Provided secondary features such as summarising articles, article metadata, and subjectivity and polarity of the article.

Analysing the Impact of COVID-19 on Food Security | *Python, Tensorflow*   June 2020 - Aug 2020
- Declared Winners out of 4000 teams and 10,000 students at IBM Hack Challenge 2020, one of India's largest hackathons.
- Using data from household surveys, grocery store mobility, and daily COVID-19 cases to identify and visualise the most vulnerable population clusters for food security measures.

Detecting COVID-19 onset from Wearables | *Python, PyTorch*   May 2020 - July 2020
- Trained LSTMs on publicly available wearables data for binary classification (Covid or not) with 87% test accuracy
- Used LIME to identify early heart rate variability markers that are important for the model to detect Covid-19

Honors and Awards

- **Finalist** - Adobe MAX Sneaks 2022
- **Winner** - IBM Hack Challenge 2020
- **Winner** - Ada Lovelace Day Celebrations Hackathon 2020 by IEEE and IBM India
- **Winner** - GirlGeeks Hackathon 2019 by PES University in association with Microsoft India and IEEE Computer Society, Bangalore

Team and Volunteer Experience

Core Team Member, R.V. QuizCorp — July 2018 - Aug 2022
Create and organize quizzes for National-Level quiz tournaments — *Bangalore, India*

Co-Founder IEEE RVCE Projects Team — April 2021 - April 2022
Matching students with mentors and interdisciplinary projects for research exposure — *Bangalore, India*

Curriculum Content Developer at Gyanada Foundation — March 2021 - April 2021
Developed an introduction to programming curriculum for underprivileged children — *Remote*

Fundraising Executive at S.P.A.R.K — Jan 2020 - March 2021
Organized a fundraising campaign for Rs. 2 million for orphanages affected by the pandemic — *Bangalore, India*

Machine Learning Core Team Member, Coding Club RVCE — Aug 2019 - Aug 2020
Organize hackathons, workshops, placement training support — *Bangalore, India*

Co-Founder and Secretary IEEE Computer Society RVCE Student Chapter — Aug 2019 - Dec 2020
Invite domain experts for hands-on workshops, and research collaboration — *Bangalore, India*

Volunteer Akshara Programme by Rotaract RVCE — Feb 2019
Teaching English to under-resourced Kannada-medium schools — *Bangalore, India*

Hobbies and Interests

Podcasting — Remote
LiteRarely: Books (emphasis on Indian literature); CultuRarely Speaking: pop-culture — *April 2024-Present*

Writing — Bangalore, India
Thought Schedule: A collection of short stories, poems, and some thoughts — *May 2020- Present*