

# Nikitha Srikanth

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## EDUCATION

### R.V. College of Engineering

*B.E. Computer Science and Engineering, GPA: 9.27/10*

Aug 2018 - Aug 2022

*Bangalore, India*

## WORK EXPERIENCE

### Experience Intelligence - Machine Learning Engineer

*Adobe Systems India Pvt. Ltd.*

May 2023 - Present

*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 better performance 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 interpretability features

### Media and Data Science Lab - Machine Learning Research Associate

*Adobe Systems India Pvt. Ltd.*

July 2022 - May 2023

*Noida, India*

- Adobe Express [6]
  - \* Metadata Asset Search - Developed search suggestions for Adobe Express that enable users to better search for assets in templates
  - \* 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

*Adobe Systems India Pvt. Ltd.*

Jan 2022 - July 2022

*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.

### Media and Data Science Lab - Research Intern

*Adobe Systems India Pvt. Ltd.*

May 2021 - July 2021

*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

*Indian Space Research Organization (ISRO)*

Aug 2020 - May 2021

*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

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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

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- 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

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- **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

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<b>Core Team Member, R.V. QuizCorp</b> <i>Create and organize quizzes for National-Level quiz tournaments</i>	July 2018 - Aug 2022 <i>Bangalore, India</i>
<b>Co-Founder IEEE RVCE Projects Team</b> <i>Matching students with mentors and interdisciplinary projects for research exposure</i>	April 2021 - April 2022 <i>Bangalore, India</i>
<b>Curriculum Content Developer at Gyanada Foundation</b> <i>Developed an introduction to programming curriculum for underprivileged children</i>	March 2021 - April 2021 <i>Remote</i>
<b>Fundraising Executive at S.P.A.R.K</b> <i>Organized a fundraising campaign for Rs. 2 million for orphanages affected by the pandemic</i>	Jan 2020 - March 2021 <i>Bangalore, India</i>
<b>Machine Learning Core Team Member, Coding Club RVCE</b> <i>Organize hackathons, workshops, placement training support</i>	Aug 2019 - Aug 2020 <i>Bangalore, India</i>
<b>Co-Founder and Secretary IEEE Computer Society RVCE Student Chapter</b> <i>Invite domain experts for hands-on workshops, and research collaboration</i>	Aug 2019 - Dec 2020 <i>Bangalore, India</i>
<b>Volunteer Akshara Programme by Rotaract RVCE</b> <i>Teaching English to under-resourced Kannada-medium schools</i>	Feb 2019 <i>Bangalore, India</i>