

# Pritika Ramu

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## EDUCATION

Birla Institute of Technology and Science, Pilani

Pilani, India

B.E. in Computer Science — **CGPA: 9.21/10**

Aug 2019 – May 2023

- Received **50%** Institute Merit Scholarship (for **7** consecutive semesters)
- Graduated in the **top 2% of the Class of 2023**

## EXPERIENCE

**Research Associate** — Adobe Research, Bangalore | 🌐

Jun 2023 – Present

- Created a PoC for **generating presentations** from a corpus [4,8,10] resulting in a feature adopted into product roadmap.
- Developed an **automatic evaluation pipeline** for table generation from text [1] and image-text relevance in presentations.
- Integrated automatic generation of **statistical charts** [3,7] and **infographics** from documents to add to presentations.
- Developed a **PEFT** method to **personalise LLMs** for brand guidelines while retaining instruction-following ability [6].
- Improved **attribution quality** for abstract answers for **Acrobat AI assistant** [2].
- **Mentored three undergraduate students** during their summer internships.

**Research Assistant** — VT-NLP Lab, Blacksburg, USA | 🌐

Jan 2023 – Jun 2023

- Developed a **relation extraction model** for visually rich documents, achieving **8%** improvement across domains [5].
- Introduced **multi-granular layout** representations, **constraint-based loss functions** and an **edge-aware graph attention network** to improve structural understanding.
- Curated and annotated data to **create a challenging dataset** for KIE tasks on diverse, complex-layout documents.

**Research Intern** — Adobe Research, Bangalore, India | 🌐

Jun 2022 – Aug 2022

- Developed an **entity extraction** model for documents in a **few-shot** setting [9].
- Designed an **attention mechanism** for contextualising embeddings with entity definition query.
- Created an annotation interface for few-shot example collection.

**Technology Development Intern** — Goibibo-MakeMyTrip, Bangalore, India | 🌐

Jun 2021 – Jul 2021

- Created a **REST API** for Flights booking page of Goibibo using **NodeJS with Express**.
- Developed an **OCR feature** to extract details from passports and automatically fill traveller details.
- Analysed **web vitals** of page using **NewRelic** and **Lighthouse**. Improved Lighthouse performance score by **34%**.

## PUBLICATIONS AND PREPRINTS

[1] Is This a Bad Table? A Closer Look at the Evaluation of Table Generation from Text | **EMNLP '24 (short)**

**Pritika Ramu**, Aparna Garimella, Sambaran Bandyopadhyay | 📄

- A table evaluation method that converts tables into a list of NL atomic statements for comparison with ground truth.

[2] Enhancing Post-Hoc Attributions in Long Document Comprehension via Coarse Grained Answer Decomposition | **EMNLP '24**

**Pritika Ramu**, Koustava Goswami, Apoorv Saxena, Balaji Vasan Srinivasan | 📄

- A method to enhance attribution quality by decomposing abstractive answers into source-attributable information units.

[3] Unraveling the Truth: Do LLMs really Understand Charts? A Deep Dive into Consistency and Robustness | **EMNLP '24 (Findings)**

Srija Mukhopadhyay, Adnan Qidwai, Aparna Garimella, **Pritika Ramu**, Vivek Gupta, Dan Roth | 📄

- Analysis of VLMs for CQA on varying question complexities and chart formats, proposing directions for improved robustness.

[4] Zooming in on Zero-Shot Intent-Guided and Grounded Document Generation using LLMs | **INLG '24 (oral)**

**Pritika Ramu**, Pranshu Gaur, Rishita Emami, Himanshu Maheshwari, Danish Javed and Aparna Garimella | 📄

- A method for intent-guided document generation using reference-grounded planning, improving relevance and grounding.

[5] RE<sup>2</sup>: Region-Aware Relation Extraction from Visually Rich Documents | **NAACL '24**


**Pritika Ramu**, Sijia Wang, Lalla Mouatadid, Joy Rimchala, Lifu Huang | 📄

- RE model leveraging spatial structure in VRDs with constraint loss and multigranular layout representations.

[6] PersonaAdaptedLM: Enhancing Instruction Following Models with Efficient Persona Transfer | **Under Review**

**Pritika Ramu**, Apoorv Saxena, Debraj Basu

- Leveraging LoRA adapters for persona transfer to instruction-following models, enabling customisation without paired datasets.

- [7] Infogen: Generating Complex Statistical Infographics from Documents | **Under Review**  
Akash Ghosh, Aparna Garimella, **Pritika Ramu**, Sambaran Bandyopadhyay, Sriparna Saha
- Generating statistical infographics by extracting metadata and using LLM planning for code-based infographic construction.
- [8] An Assessment of Some Ethical Challenges to Employee and Consumer Privacy in the Business World | **IJRBS '22**  
Kumar Neeraj Sachdev, **Pritika Ramu** | 




## PATENTS

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- [9] Planning-based Method to Assist Intent-guided and Grounded Document Generation using LLMs | **USPTO** App. 18/891,558  
**Pritika Ramu**, Aparna Garimella, Himanshu Maheshwari
- [10] Minimally Guided Semantic Extraction | **USPTO** App. 18/360,721  
Inderjeet Nair, **Pritika Ramu**, Akshay Singhal, Kumud Lakara, Vikas Balani, Anandhavelu N
- [11] Multimodal Grounded Content Expansion | Accepted for patent filing by Adobe Inc.  
Pranshu Gaur, Danish Javed, Rishita Emandi, Himanshu Maheshwari, **Pritika Ramu**, Aparna Garimella




## PROJECTS

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- Biometric Authentication using Forehead Wrinkle** | *Mentor: Prof. Kamlesh Tiwari* |  Jan 2022 – May 2022
- Extracted biometric features using **ArcFace** with dual attention mechanisms (channel and spatial) for authentication.
  - Curated a crowdsourced database and conducted performance evaluation using **CRR**, **FAR**, **FRR**, and **EER** metrics.
- Compiler for Custom Language** | *Course Project: Compiler Construction* |  Jan 2022 – May 2022
- Implemented compiler frontend for a custom language, including **Lexer**, **Parser**, **AST**, and **Semantic Analyzer** in **C**.
  - Added features like **operator overloading**, **variant records**, and **error reporting** for robustness.
- Turn by Turn Route Navigation System** | *Mentor: Prof. Kamlesh Tiwari* May 2021 – Dec 2021
- Implemented **Dijkstra** and **critical path algorithms** for constrained navigation and built **R-trees** for spatial querying.
  - Generated turn-by-turn instructions and visualized routes using the **MapmyIndia API**.
- Air Pollution Prediction using ML Techniques** | *Mentor: Prof. L. Rajya Lakshmi* |  Jan 2021 – May 2021
- Performed **kNN imputation**, applied various ML algorithms (achieving **76–94%** accuracy).

## VOLUNTEER WORK

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- Pandemic Resource Bot, Crowd Management System** | *Change Makers of Kanakapura* | ,  Apr 2021 – May 2021
- Developed a chatbot for real-time verified pandemic related resources using **Google Apps Script**, aiding **3000+** residents.
  - Developed a token management system to streamline crowd at shops to ensure social distancing.
- Teaching Resource Development** | *Pilani AtmaNirbhar Resource Center* |  Sep 2020 – Nov 2020, Feb 2022 – May 2022
- Developed and launched a **free online course** for educators on effective **online teaching**, including website design, progress monitoring, quiz creation, and certificate automation.
  - Created the curriculum and authored a manual featuring **creative science experiments** using household items, targeted at **children aged 8–12** in Pilani.

## TECHNICAL SKILLS

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**Languages:** Python, C/C++, JavaScript, HTML/CSS, MATLAB, Bash  
**Frameworks:** PyTorch, Keras, React, Node.js, Flask, Streamlit, LangChain  
**Developer Tools:** Git, Docker

## MISCELLANEOUS

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- Reviewer** - ARR October 2024
- Webmaster** - Association of Computing Machinery, BITS Pilani (Student Chapter) Jun 2021 - May 2022
- Revamped BITS-ACM webpage and developed a stock market simulation portal for college technical fest.
- Teaching Assistant** - Professional Ethics (HSS F313), BITS Pilani Jan 2021 - Dec 2021
- Athletics**
- Gold medalist in 100m sprint, long jump, and triple jump; silver medalist in 4x100m relay at the BITS Open Sports Meet.