

Ramya Bygari

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Education

University Of Illinois Urbana Champaign (UIUC)

Champaign, Illinois

Master Of Science, Computer Science (Thesis with Prof. Indranil Gupta on Distributed Systems for GNNs)

2022 - May 2024

National Institute of Technology Karnataka (NITK)

Surathkal, India

Bachelor of Technology in Computer Science

2016 - 2020

Experience

Razorpay | Machine Learning Engineer

Aug 2020 - Jul 2022

- Smart Routing : Migrated and transformed the existing rule-based batch processing system to a scalable stream processing ML Random Forest system to intelligently handle real-time payment transactions using Spark and Kafka. Increased payment success-rate by 6% thereby decreasing product gap and enhancing user engagement.
- Deployed distributed batch processing self-serve pipelines to provide a reliable and high throughput user personalisation infrastructure/schema for seamless data analysis and data modeling. Developed data pipelines leveraging Hadoop sharded file system for efficient extraction and processing of terabytes of data, Elastic Search and Scala for data storage and ETL pipelines respectively. Decreased the user data serve latency by 50%, from 600 ms to 300 ms.

Adobe Systems | Product Intern

May 2019 - July 2019

- Developed a C++ plugin to support platform-independent, variable frame-rate animation and low latency export through Lottie, an open-source JSON-based animation file. Reduced the animation export time by 60% (5 mins to 2 mins).

PathCheck, MIT Media Lab SpinOff | Research Collaborator

Aug 2021 - Present

- Deployed a rapid fact-checking search engine, to curb the spread of misinformation that collates data from various sources, checks for authenticity, and concisely summarizes the reliable articles. (covid-news.org)

Chennai Mathematical Institute | Research Intern

May 2018 - July 2018

- Implemented an end-end deep learning system using Keras and Tensorflow to estimate the damage of an agricultural field by segmentation of the weed from the main crop. Deployed over 300 farms in collaboration with Skylark Drones.

Selected Projects

Implementation of ECN+ for ns-3 | [Project Link](#)

(NITK) Oct 2018 - July 2019

- Implemented ECN+ for ns-3 in C++, an extension of ECN, used to signal the sender about congestion in a network.

Breast Cancer Treatment Planning | [Project Link](#)

(NITK) Jan 2019 - Oct 2020

- Developed an ML system using Tensorflow and Keras with a customized loss function to handle dataset imbalance and proposed a modified LadderNet architecture for intermediate segmentation. Achieved an overall accuracy of 91.2%.

Social Sale : Ecommerce among college students | [Project Link](#)

(NITK) Jan 2018 - July 2018

- Developed an e-commerce and mentoring web-application platform, with chatbot support, to all students within a college to exchange products and information. Built using PHP, HTML, JavaScript.

Operating Systems Simulator

(NITK) Nov 2017 - Dec 2017

- Developed a web application that simulates various functions of an Operating System. Built using the Django web framework and uses Python for backend calculations.

Patent and Publications

- An AI-powered Smart Routing Solution for Payment Systems | [IEEE Big Data Conference Paper](#)
- Blindness (Diabetic Retinopathy) Severity Scale Detection | [IEEE SDS Conference Paper](#)
- Prostate Cancer Grading using Multistage Deep Neural Networks | [Springer MIND 2021 Conference Paper](#)
- Automated Molecular Subtyping of Breast Carcinoma using LadderNet Architecture | | [IEEE-JTEHM Journal](#)
- System and method for graduate application assistance | [Patent document](#)

Technical Skills

Python, Scala, Kafka, Elasticsearch, Hadoop, MapReduce, Apache Spark, PySpark, Tensorflow, Keras, Pytorch, SQL, Java, C++, C, Git, Matlab, HTML, JavaScript, GO, Verilog, CUDA, OpenMP, MIPS, Docker, AWS, Airflow

Leadership / Extracurricular

- Speaker at ODSC APAC 2021
- Volunteer at Winvinaya Foundation (Indian NGO)
- Mentor and Workshop coordinator at Grace Hopper Conference (GHC) 2021
- Core Placement Coordinator, NITK
- Event Organizer at Smart India Hackathon (SIH) 2019, NITK