

# Aditya Ramachandra

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## EDUCATION

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- **Indiana University Bloomington** Bloomington, IN  
*MS in Computer Science; GPA: 3.95* *Aug 2022 - Present*
- **PES University** Bengaluru, India  
*B.Tech in Computer Science; GPA: 3.72 (8.47/10.0)* *Sep 2016 - Nov 2020*

## COURSEWORK

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- **Graduate Courses:** Software Engineering, Applied Database Technologies, Social Media Informatics, Data Mining, Applied Algorithms, Elements of Artificial Intelligence, Knowledge Graphs and LLMs, Deep Learning, Computer Networks, Security for Networked Systems.
- **Online Courses:** Machine Learning(Coursera), Introduction to Reinforcement Learning (Deepmind), DeepLearning.AI.

## WORK EXPERIENCE

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- **Infibeam Avenues** Bengaluru, India  
*Software Engineer* *Aug 2020 - May 2022*
  - **Virtual Bank Account Creation:** Designed and tested the account creation flow for offering loans to sellers on the Government e-Marketplace (GEM) benefiting ~190k sellers.
  - **Seller Registration Service:** Scaled the registration service using AngularJS and Ruby on Rails to handle multi-seller account creation for proprietors with the same business identity number.
  - **Logistics Service:** Collaborated with India Post and added a new logistics service which enabled all the sellers to book for consignment shipping online.
  - **CAPTCHA verification:** Fixed security vulnerabilities by adding CAPTCHA layers for several user actions, improving the overall security of the platform and safeguarding the data of ~50k buyers.
- **Infibeam Avenues** Bengaluru, India  
*Software Engineer Intern* *Jan 2020 - Jul 2020*
  - **Product Search:** Refined search for 150+ product categories using a custom entity extraction model leveraging OpenNLP-based tokenization and featurization.
  - **Real-time Indexing:** Integrated with Apache Solr search system to provide real-time search optimized for high-volume traffic.

## ACADEMIC PROJECTS

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- **Booking Management System:** Created a secure Django and React-based tour management system, offering flight and hotel bookings with JWT authentication and social media registration.
- **Docker Container Orchestrator:** Designed a robust and scalable Docker container orchestrator on AWS EC2 for a Django-based REST API implementing auto-scaling and a reverse proxy framework.
- **High Performance Distributed Key-Value Store:** Engineered a resilient Key-Value Store with fault tolerance and high availability, reducing downtime and data loss risks through ZooKeeper integration.
- **Academic Coursework Planner:** Engineered an interactive academic info system in Python leveraging OpenAI GPT3 and Pinecone DB, and deployed on Microsoft Azure.
- **Knowledge Graph Integration for Enhanced LLM Reasoning (ongoing):** Enhancing Large Language Models (LLMs) by integrating knowledge graphs, processing triplets to construct a graph database, and optimizing LLM performance through graph-based queries.

## PRESENTATIONS AND CONFERENCES

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- Developed and trained a parser for identification of similar scripted language characters using SVM and K-NN algorithms for image pre-processing, which was presented at the International Conference on Adaptive Computational Intelligence (ICACI-2019).
- Participated in WSDM - KKBox's Churn Prediction Challenge to perform Customer Churn Prediction and emulated results with 98% MER and 0.074 log loss error.

## SKILLS SUMMARY

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- **Programming Languages:** Python, Java, C, C++, R, Scala
- **Databases:** MySQL, PostgreSQL, MongoDB, Neo4j, Cassandra
- **Web Technologies:** Angular JS, React JS, Ruby on Rails, Django, Flask
- **Cloud Computing:** Docker, AWS, GCP, Azure
- **Generative AI and Data Modeling:** LLM, OpenAI, Knowledge Graph, Pinecone DB, Spark