

PANKAJ MANOHARLAL THAKUR

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Education

North Carolina State University, Raleigh, NC

Aug 2023 - May 2025

Master of Computer Science

GPA: 4.0/4.0

Courses: Automated Learning and Data Analysis, Generative AI for Software Engineering, Internet Protocols, Neural Network and Deep Learning, Foundations of Data Science, User Experience

Siddaganga Institute of Technology, Tumakuru, India

Aug 2016 - Aug 2020

Bachelor of Engineering in Electronics and Communication

GPA: 9.2/10.0

Courses: Data Structures, Data Analytics, Object Oriented Programming, Machine Learning, Advanced Image Processing

Work Experience

Software Engineering Lab, NC State, Raleigh, NC

Sep 2023 - Present

Generative AI Research Assistant under Dr.Bowen Xu

- Enhanced an existing data crawler to automate the collection of extension reviews, resulting in a **70%** time savings. Additionally, collaborated on labeling the data for **Generative AI** extensions on VS Code.
- Conducting **Sentiment and Data Analysis** on reviews, utilizing **Large Language Models** to cluster the reviews. This process is aimed at examining developer sentiments related to Generative AI-based extensions.

Software Engineer II

Jan 2020 - Jul 2023

Cisco Systems India Pvt. Ltd, Bengaluru, India

- Designed and developed the frontend and backend of a tool that reduces the time to migrate the Cisco Contact Centre data, from **2 months to 72 hours** using Python, Django, and AXL APIs.
- Devised scripts for automating network data collection across **485 devices** making use of Python and Jupyter Notebook, achieving a **40%** reduction in time. Received **connected recognition** from a senior architect for the successful implementation.
- Automated the backup process for more than **10,000 UC** devices using Python, SQL, and Jupyter Notebooks, leading to a time-saving of **35%**. The scripts were used in Banking and Public Health organization projects.

Software Engineer Intern

- Revamped and engineered a query tool by employing Angular, Java, SpringBoot, REST APIs, SQLite, and a **CI/CD pipeline**. Achieved a **30%** enhancement in user experience, introduced supplementary functionalities, and bolstered scalability.

Projects

Web Development

- Collaborated in the creation of a Cisco internal tool with **React and Python**, to provide managers with insights into the skill profiles of their team members. This initiative resulted in improved alignment between skill sets and project requirements and was implemented for a team of **84** engineers.

Android Development

- Crafted and implemented an Android application utilizing **Java and Firebase** to facilitate a seamless, cashless shopping experience. The app allows users to scan QR codes for quick payments, thereby eliminating the need for standing in long queues during product checkouts. This app resulted in a **25%** reduction in the time spent waiting in shopping lines.

Natural Language Processing

- Built classifiers employing frequency-based, LSTM and BERT methods in **Python** with the help of **PyTorch** to classify tweets into 5 labels(Extremely negative, Negative, Neutral, Positive, Extremely Positive) achieving an accuracy of 64%, 73% and 85.75% respectively for the three methods and **published a paper** on the same. Link

Generative AI

- Spearheaded "README2Video" project utilizing Large Language Model - **Falcon and LangChain** to seamlessly convert README files into engaging video prompts through a novel video pipeline. Received **positive feedback** after successfully generating a video from the course outline README for CSC faculty members.

Technical Skills

Programming Languages: Python, C, C++, Java, R, XML, HTML

Databases: SQL, SQLite, MySQL, Firebase

ML & DS Skills: Exploratory Data Analysis, Visualization, Natural Language Processing, Neural Networks, Large Language Models

Frameworks & Libraries: Angular, React, Django, AWS, Flask, Pandas, Node JS, Scikit-Learn, Hibernate, Spring, REST, Selenium, Agile

Tools: Eclipse, Tableau, Tomcat, Matlab, Jupyter Notebook, Git, Ansible, Jira, Docker, PyTorch, Tensorflow, SpringBoot

Networking Skills: SNMP, NETCONF, Ethernet, TCP/IP, CLI, gRPC, Wireshark, Packet Tracer, GNS3, YANG

Soft-Skills: Leadership, Collaboration, Drive and Initiative, Teamwork, Communication, Adaptability

Leadership and Recognitions

Cisco-SIT Industry-University Connect: Orchestrated a program facilitating the collaboration between Cisco experts and SIT through seminars, projects, and research problem statements. Engaged **more than 500 students**, enhancing their performance in campus placements. Recognized with the **Emerging Talent Award** for significant contributions.

Vice Chairman, Robotics Club: Led and mentored a **team of 60** in the construction of state-of-the-art robots. Organized three national-level robotics championships over three years, attracting **700+** students annually.