

SHIVANJALI VIJAYKUMAR RANASHING

(862)294-8934 | shivanjali.vijaykumar@gmail.com
<https://www.linkedin.com/in/shivanjali-vijaykumar/>
<https://shivanjalir.github.io/shivanjaliVR-portfolio/>



University of Cincinnati

PhD in Computer Science (Machine Learning and Graph Mining)

New Jersey Institute of Technology

Master of Science, Computer Science

Maharashtra Institute of Technology Pune [Savitribai Phule Pune University, India]

Bachelor of Engineering, Computer Engineering

Government Polytechnic Pune, India

Diploma in Computer Engineering

RELEVANT COURSEWORK

- Intelligent Systems
- Big Data Analytics
- Complex Systems
- Machine Learning
- Deep Learning
- Natural Language Processing

Researching algorithms for community detection in directed and signed graphs.

Submitted conference papers and journal papers and waiting for result.

PROFESSIONAL EXPERIENCE

Graduate Research Assistant at UC Sim Center, in collaboration with P&G

- Conducting research on LangChain, Prompt Engineering, and Graph Mining.
- Performing exploratory data analysis in collaboration with P&G.

Summer Inter at Fidelity, Covington, Kentucky

- Implemented Retrieval-Augmented Generation (RAG) workflow to summarize user queries with references from PDF files.
- Utilized AWS Textract to extract content and tables from PDFs by parsing JSON objects.
- Implemented file operations (upload, download, and retrieve) using Boto3 and S3FS with S3 buckets.
- Embedded text using sentence-transformers/all-MiniLM-L6-v2 for vector storage in content retrieval.
- Employed Hugging Face's summarization pipeline to condense retrieved content.
- Developed the front end using Streamlit and stored data in AWS RDS.
- Built Python APIs using FastAPI for frontend user requests and managed the project environment with Poetry.

Associate in Corporate & Funding Technology division, Prime Brokerage Tech department at Morgan Stanley

- Worked on full-stack OTC project, developed UI in Angular and backend and middleware in Java, Spring, and JPA
- Order Management module for IIC calculator using Spring, Hibernate, and Java technologies.
- Scratch development in the backend for an Anti-Money Laundering tool using Spring, JPA, Hibernate, and REST
- Developed scratch Usage Service Java backend using Spring, JPA, and Hibernate technology.
- Worked on FS-Factor full-stack project where frontend was in angular and typescript, and the backend used HTTP, REST, and Java
- Involved in scratch development using Redux state management, loadsh, Jasmine, and Java unit testing technologies. Environment building using IntelliJ IDE, maintain the versions and builds using git and Jenkin CI jobs, respectively. Deployment on Portal server and ZooKeeper.
- Followed Agile methodology for all software development projects.
- Completed a four-month Software development comprehensive training program at Morgan Stanley's headquarters in New York City.
- Attended lectures and was tested on the topics: Operating Systems, Databases, Programming languages (C++, Java, Scala, C#), Concurrent and advanced programming, RESTful web services, and JMS in four months of the rigorous training program.
- Learned financial business requirements at Morgan Stanley.
- Designed and implemented a full-stack Risk Management web application using Angular4 as frontend and Java Restful web services as backend.
- Comparison analyzed and demonstrated non-relational databases Cassandra and LevelDB. Used LevelDB database for efficiently storing and querying sparse data.

Summer, Fall, and Spring Student Intern at ADP, Roseland, New Jersey

- Developed a Dashboard to display live status information from thousands of servers using HP SiteScope API. Backend functionality was in Java and used HP SiteScope APIs, while frontend used JSP, Servlet, HTML, CSS, etc
- Developed a reporting application for fetching historical databases on a daily, weekly, monthly, quarterly, and yearly basis, using graphical analysis estimations using the Oracle Express application. Handled Oracle database with all Data definition language [DDL] and data manipulation.
- Learned and developed Panorama VDL frontend for Netcool historical reporting tool. Designed and developed a full-stack project with an angular frontend and Oracle as a database. PHP is used as a server-side script to fetch data from the database. Tomcat plays the role of middleware and sends the result to the VDL front in form of JSON. Worked indexing, and portioning of database to reduce relapsed time and increase speed.

Software Engineer at ATOS, Pune, India, worked on Nokia Project

- Rebranded standalone Nokia Electronic Document installer using JSP, Servlet, HTML, CSS, and Windows Programming technologies using InstallShield installer.
- Rebranded Online NED production server with war files hot deployment on the Tomcat server.
- Rebranded standalone IB installer using JSP, Servlet, HTML, CSS, and Eclipse Framework technologies with the Create install tool.
- Major and minor enhancements using JSP, Servlet, Java, and HTML on the production server and standalone tool.

Virtual Money Sponsored Project by Persistent Systems Ltd.

- Designed and developed an Android client application that facilitates users (consumer/vendor) to do their transactions with virtual points available in their respective accounts.
- Developed .Net C# application on the server side which maintains the details of the consumer and vendor accounts. Server response was populated in XML documents which were parsed at the client side. Client and server communication was in SOAP request/response format.

PROJECTS

Document Clustering using Graph Convolution Network (GCN)

- Developed a graph from document content, incorporating document-to-word and word-word edges with TF-IDF and PMI weights, respectively.
- Built a Graph Convolutional Network (GCN) from scratch using semi-supervised training to identify document categories in the test set.
- Evaluated model performance using accuracy, F1 score, precision, and recall, and utilized t-SNE for visual representation.
- Implemented the project on an NVIDIA GPU using Docker containers and the PyTorch package.

Image Analysis project for P&G, Cincinnati, OH

- Color segmentation using the K-means algorithm and listing colors from images and their respective percentage.
- Classification of images using transfer learning.
- Developed color pigmentation data mining application using the Orange Data Mining platform.

Python Streamlit Web Application development for P&G

- Developing web application for scenario creation as per user requirement and connecting SQL server using SQL Alchemy.

ACCOMPLISHMENTS

- Winner of Best Security Hack and Most Creative Use of GitHub at MakeUC Hackathon. [Nov 2023]
<https://devpost.com/software/safe-roads>
- Winner of Best Educational Hack at RevolutionUC Hackathon, in partnership with 1819 Innovation Hub. [Feb 2023]
<https://devpost.com/software/amigo-62adsg>
- Spark Grant Winner powered by Fealy Bearcat Bridge Fund to discover entrepreneurs [2022]
- Coursera certification in Google Cloud Platform Fundamentals: Core Infrastructure.
- Oracle Certified Java SE 6 Programmer [Feb 2014].
- Certificate of excellence [2013] with accolade silver at ATOS.
- Achiever's award [2014] at ATOS.
- First prize in Blind Coding inter-college competition [Intechxication 2010] held at MIT, Pune.

EXTERNAL ACTIVITIES

- Student Assistant for Women outreach program at NJIT in which we visited high/middle schools and arranged presentations for students, mostly for girls, in which we used to encourage them to choose the computer science field as their career path.
- BRAID [Building Recruiting and Inclusion for Diversity] ambassador which is an initiative of the Anita Borg Institute, to bring in more female and underrepresented minority students to take up careers in STEM, particularly computing.
- Selected as Webmaster on Graduate Women in Computing Science E-board at NJIT.
- Got sponsorship from NJIT to attend the Grace Hopper Conference 2016 and the Richa Tapia Conference 2016.
- Got sponsorship from UC to attend the Grace Hopper Conference 2023 and 2024.