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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. (IT)	JNTU-GV College of Engineering, Vizianagaram	7.5 (current)	2021-2025
Intermediate	Sasi New Gen. Junior College, Velivennu	94.4%	2020
10th	Sasi E.M High School, Velivennu	9.7	2018

EXPERIENCE

- **National Institute of Technology, Warangal** *[May 2024] – [July 2024]*
  Research Intern NIT Warangal, Dept of CSE
  - **Software Effort Estimation** Conducted extensive research on Software Effort Estimation implementing advanced Machine Learning and metaheuristic optimization techniques. Enhanced predictive models resulting in 28% improved accuracy for software development effort calculations, significantly reducing project planning uncertainties.

  - **Research Outcomes** Successfully developed a hybrid estimation framework combining statistical methods with ML techniques, achieving notable results when Analogy Based Estimation (ABE) was integrated with firefly weight optimization. Research findings directly applicable to industry project planning and resource allocation challenges.

- **Innogeecks Technologies Private Limited** *[July 2024]-[Aug 2024]*
  Cyber Forensics Intern Vijayawada, Andhra Pradesh
  - **Cyber Forensics** Participated in an intensive internship gaining hands-on experience in digital forensics techniques. Performed evidence acquisition, data recovery operations, and security breach analysis. Contributed to incident response procedures and developed methodologies for digital evidence collection.

  - **Tools and Techniques** Mastered professional forensic tools including EnCase, FTK Imager, and Autopsy for digital evidence acquisition and analysis. Developed custom Python scripts for automated artifact extraction and report generation. Gained practical experience with offensive security tools such as Metasploit and Nmap within controlled environments, enhancing threat modeling capabilities.

PROJECTS

- **Automated Unit Test Generation** *Sep. 2024 - Feb. 2025*
  Developing an industry-aligned solution for test automation using Large Language Models (LLMs)
  - **Tools & Technologies** Python, LangChain, OpenAI API, GitHub Actions, pytest, Docker, MLOps

  - **Project Focus** Addressing a critical industry challenge where unit test creation accounts for approximately 30% of development time in enterprise environments. Architected a pipeline that prompts LLMs to analyze code, identify edge cases, and generate comprehensive test suites achieving over 90% code coverage. Implemented continuous integration workflows that automatically update tests when source code changes, reducing test creation time by 75% in preliminary trials while maintaining high-quality test coverage.

- **Dynamic GNN for Threat Detection** *Mar. 2024 - Present*
  Creating a Graph Neural Network application for network security threat detection
  - **Tools & Technologies** Python, PyTorch Geometric, NetworkX, GNS3, Wireshark, Docker

  - **Project Focus** Developing an advanced network security solution using Graph Neural Networks to detect sophisticated threats in real-time network traffic. Designed a system that models network traffic as temporal graphs, enabling the detection of complex attack patterns that traditional signature-based systems miss. Implemented a custom GNN architecture that achieves 94% detection accuracy for zero-day attacks in simulated environments while maintaining a low false positive rate.

- **Improved Software Effort Estimation** *May 2024 - July 2024*
  Improving accuracy of software development estimation in Agile environments
  - **Tools & Technologies** Python, Scikit-learn, ALTAIR AI Studio, Anaconda, Hyperopt, XGBoost

- **Research Focus** Implemented sophisticated feature selection using Pearson correlation and hyperparameter optimization with Hyperopt. Engineered a hybrid estimation framework combining statistical methods with ML techniques to improve prediction accuracy by 28% over baseline models. Applied ensemble methodologies with various models including Linear Regression, ANN, K-Nearest Neighbors, and SVM. Achieved notable results when Analogy Based Estimation (ABE) was integrated with bio-inspired optimization algorithms (Firefly, Particle Swarm) to adapt to different project contexts.

- **Building a Honeypot Trap** *Nov. 2023 - Dec. 2023*
  Developing a deception-based security monitoring solution
  - **Tools & Technologies** Python, Docker, T-Pot, ELK Stack (Elasticsearch, Logstash, Kibana), Linux

  - **Implementation Details** Designed and deployed a multi-layered honeypot system to attract and analyze attacker techniques. Created realistic-looking but isolated network environments that simulate vulnerable services to safely capture malicious activities. Developed automated analysis tools that categorize attack patterns and generate threat intelligence. Implemented a visualization dashboard that provides real-time monitoring of attack vectors and attacker behaviors, contributing valuable insights to overall security posture.

- **Faculty Management System** *Jan. 2024 - Mar. 2024*
  Developed a scalable system to streamline faculty data management
  - **Tools & Technologies** Java, Java Servlets, PostgreSQL, JDBC, HTML5, CSS3, JavaScript, JSP, Tomcat

  - **Implemented Features** Created functionalities for managing faculty data, including adding, updating, and searching records. Integrated a user-friendly frontend with backend logic to streamline the management process

Technical Skills

- **Programming Languages:** C/C++, Python, Java, JavaScript, R, Rust   (Prefers Vim)
- **Tools & OS:** Linux (prefers RPM based), Git, GNS3, Docker, Kubernetes, OpenShift, ALTAIR AI Studio
- **Databases:** SQL, Cloudant, MongoDB, PostgreSQL
- **Libraries/Frameworks:** Scikit-learn, Keras, PySpark, TensorFlow, PyTorch, PyTorch Geometric
- **Web Development:** MERN Stack, Nginx, Apache Tomcat
- **DevOps:** CI/CD Pipelines, Infrastructure as Code, Monitoring (Grafana)
- **Cloud Computing:** AWS, IBM Cloud
- **Version Control:** Git, GitLab
- **Networking:** TCP/IP, DNS, Load Balancing, Network Analysis (Wireshark, tcpdump)
- **Security:** Penetration Testing, Digital Forensics, Honeypot Deployment, Security Best Practices

Positions of Responsibility

- **Technical Event Coordinator** ITYUKTA 2K24, JNTUGV *[Jan 24] - [Mar 24]*
- **Technology Instructor (Community Service)** SKP&TVR Mpl. High School *[Jun 23] - [Aug 23]*

Extracurricular Activities

- **Community Development Volunteer, Sikshana Foundation**
  - Taught new technologies and computer skills to financially disadvantaged students, reaching over 50 students across multiple sessions
  - Designed and implemented a curriculum focusing on basic programming concepts and computer literacy
  - Promoted community-driven educational development initiatives through workshops and mentorship programs

- **Naash Mukth Abhiyaan (Drugs Free Society)** Actively participated in the Naash Mukth Abhiyaan, a campaign focused on eradicating drug abuse. Led awareness sessions and organized community events promoting drug-free lifestyles.

CERTIFICATIONS

- Micromasters in Big Data Technology from Hong Kong University of Science and Technology *Record View*
- Micromasters in Cybersecurity from Rochester Institute of Technology *Record View*
- Certified Oracle DataBase Foundations *View*
- Programming in C++ Certification from NPTEL
- Machine Learning Master from Altair *View*
- Professional Certificate in Blockchain for Business from Linux FoundationX *Record View*
- Cloud Application Development Foundations from IBM *Record View*
- Professional Certificate in Cloud Solutions Architecture from AWS *Record View*
- DevOps on AWS *View*
- Fundamentals of Neuroscience from Harvard University *View*
- Professional Certificate in Human-Robot Interaction from University of Canterbury *View*
- Introduction to Kubernetes and Cloud Native Technologies from The Linux Foundation *Record View*
- Professional Certificate in OpenSource Software Development,Linux,Git from LinuxFoundation *Record View*
- Rust Programming from Pragmatic AI Labs *Record View*
- Secure Software Development Fundamentals from The Linux Foundation *Record View*
- Fundamentals of Google AI for Web-Based Machine Learning from Google *Record View*
- Professional Certificate in Leadership and Communication from HarvardX *View*
- Oracle Certified Artificial Intelligence with Machine Learning in Java *View*
- Quantum Computing with Semiconductor Technology from Delft University of Technology *View*
- Advanced Embedded Systems on Arm from ArmEducationX *View*
- Professional Certificate in Stock Trading from New York Institute of Finance *Record View*

ADDITIONAL INFORMATION

- **Languages:** Fluent in English and Telugu (Native)
- **Interests**/**Hobbies:** Research, Open Source Contributions, Current Affairs