Sureswar Reddy Dronadula

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EDUCATION

Degree	Institute	Board / University	CGPA/Percentage	Year
B.Tech CSE	Vellore Institute of Technology, Vellore	Vellore,Tamilnadu	8.75	2021-2025
Senior Secondary	Narayana Junior College	SSC	92.5%	2021
School	Narayana Olympiad School	SSC	10.0 GPA	2019

WORK EXPERIENCE

- **Cognizant technology Solutions** ***April 2025 - Present***
  Azure Developer and Data engineer Coimbatore
  - Leveraged data warehousing, PySpark, Azure Data Factory, Databricks, SQL, Snowflake, Hive, Kafka, and Big Data technologies to streamline complex data processing workflows, improving speed and accuracy of data analysis across the team.
  - Built end-to-end data pipelines using Azure Data Factory and PySpark on Databricks to process large-scale healthcare datasets, improving data processing efficiency. Automated ingestion with incremental load, transformation (Parquet), and archival workflows with event triggers and Azure Function Apps, enhancing data management. Designed fact/dimension models and performed advanced analytics on comorbidities, claim behavior, and media trends, providing valuable insights for decision-making.

INTERNSHIPS

- **Techrev Solutions** ***May 2024 - July 2024***
  Web Development intern Hyderabad
  - Enhanced web application features by utilizing React.js, Spring Boot, PostgreSQL which resulted in a 30% increase in user engagement and improved system efficiency.
  - Developed a banking (fintech) onboarding system with login-based authentication using React.js, Spring Boot, and PostgreSQL. Implemented JWT for secure authentication. Designed and maintained RESTful APIs. Managed user roles (makers, checkers, admins) with Spring Security.
- **SheValues** ***April 2023 - July 2023***
  Data Analyst and Python Developer Bangalore
  - Utilized Python, SQL, and Tableau to perform web scraping on hiring websites, collecting relevant data and developing data visualizations to present insights, which streamlined the company's hiring process
  - Collected data from hiring websites using web scraping techniques, developed detailed visualizations for insightful presentations, and created advanced filtering tools that streamlined the hiring process at SheValues.
- **SwipeUp Productions** ***January 2025 - March 2025***
  Midjorney Prompt Engineer and Automation Engineer Remote
  - Utilized Discord, Midjourney, n8n, Canva, and Hugging Face to streamline communication and enhance image generation processes, resulting in improved efficiency and creativity in project outputs
  - Developed a fully automated pipeline integrating NLP models and Midjourney's Discord API to generate images. Created AI-generated images using Midjourney by designing and optimizing prompts for diverse artistic styles.

PATENTS AND RESEARCH PUBLICATIONS

- **An Innovative Approach and Evaluation of Contemporary Intrusion Detection Systems** ***October 2024***
  Research Publication **Journal Link**
  - Developed IDS combining CNN for feature extraction, LSTM for temporal analysis, and attention mechanisms for enhanced context modeling.Implemented quantile normalization to improve model robustness, accuracy, and outlier handling, leading to superior classification performance.
  - Achieved 99.71 % accuracy on CIC-IDS2017 dataset, optimizing CNN-LSTM-attention model for reduced inference latency and precision.
- **A novel Blockchain based biometric authentication mechanism** ***February 2025***
  Research Publication **Journal Link**
  - Developed a decentralized blockchain-based biometric authentication system that leverages fuzzy vault cryptography to secure and anonymize biometric templates, ensuring tamper-proof data integrity.Engineered performance-optimized algorithms achieving rapid authentication with 2–3 seconds response times, significantly outperforming traditional client-server methods.
  - Enhanced system scalability and security for high-stakes applications in healthcare, finance, and IoT by integrating smart contracts and distributed consensus mechanisms.

PROJECTS

– **Lane Logic: Dynamic Traffic Control Solution** ***April 2025***
Computer Vision **Github Link**

∗ Deployed YOLOv8 on live traffic camera feeds to detect and classify vehicles (cars, buses, bikes) with over 95% accuracy. Computed per-lane Passenger Car Unit (PCU) metrics by aggregating counts and weightings, enabling dynamic congestion measurement.

∗ On top of these raw metrics, I integrated LLMs (Flan-T5 and BART) to automatically generate concise, human-readable summaries of traffic flow, incident alerts, and trend analyses, which feed into an interactive dashboard with visual charts and heatmaps for actionable insights by traffic engineers.

– **Authentication and User Management** ***June 2024***
Web Development **Github Link**

∗ Implemented JWT-based authentication with secure password hashing and token refresh workflows to protect user credentials.

∗ Designed a flexible RBAC layer in Spring Security, defining granular roles (maker, checker, admin) and permissions for each application endpoint.Integrated multi-factor authentication and HTTPS enforcement, ensuring robust session management and compliance with industry security standards.

– **Disease Data analysis using Power BI** ***March 2023***
Power BI **Github Link**

∗ Imported and cleansed large healthcare datasets in Power BI, handling missing values and normalizing disparate source formats. Created interactive dashboards with drill-through filters to visualize disease prevalence across demographics, regions, and time periods.

∗ Implemented custom DAX measures to calculate incidence rates, trend analyses, and year-over-year comparisons for key disease categories.

TECHNICAL SKILLS

–**Cloud & Orchestration**: Azure Data Factory, Azure Synapse, Databricks

–**Big Data & ETL**: PySpark, Apache Kafka, Delta Lake, Parquet, Airflow,Snowflake,Git, Docker, Kubernetes

–**Skills**: C/C++, Python, Java, R programming, HTML, CSS, Java Script, Node.js SQL, MongoDB, Reactjs, Django, Shell

–**Tools and Frameworks**: Salesforce,Jupyter, Visual Studio, Selenium, TensorFlow, Git,Packet Tracer, Slack,Computer Vision,Large language models

–**Operating Systems**: Windows, Linux, Android & Mac

CERTIFICATIONS

– **GRE** ETS

– **Forest Management** NPTEL

POSITIONS OF RESPONSIBILITY

– **Core Committee Member**,Mozilla Firefox Student Club, VIT Vellore *Apr. 2023 -Apr. 2025*

– **Core Committee Member**,IEEE-ROBOTICS & AUTOMATION SOCIETY, VIT Vellore *Apr. 2023 -Apr. 2025*

– **Core Committee Member**,THE AI & ML CLUB - TAM, VIT Vellore *Apr. 2023 -Apr. 2025*

HACKATHONS AND COMPETITIONS

• **WomenTechies GDSC** ***April 2023***
Computer Vision

– Developed an AI-powered application that analyzes meal images to estimate nutrient content, predicts potential health issues, and recommends personalized food items and recipes. Integrated a collaborative system with local vendors to provide users with fresh, nutrient-rich products.

• **Smart India Hackathon** ***October 2023***
Computer Vision **Github Link**

– Designed an advanced Dynamic Traffic System using YOLOv8 for real-time vehicle detection, integrating a priority algorithm based on PCU weightage, which optimizes traffic flow by prioritizing lanes with the highest vehicle density or emergency vehicles, significantly reducing congestion and improving response times.