Vamshi E

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Professional Summary

Software Engineer with 3+ years' experience in higher education and healthcare, skilled in SQL Server, ETL workflows, data warehousing, and reporting solutions. Proficient in SQL, Python, Power BI, Tableau, and data validation, with hands-on experience in Agile/Waterfall methodologies and ITIL-based incident management to deliver accurate, scalable analytics for decision support. Experienced supporting institutional research and strategic planning in higher education, including enrollment, retention, and student success analysis, with strong knowledge of higher education policy trends.

Technical Skills

Programming & Tools: SQL Server (T-SQL, PL/SQL), Python (Pandas), R (Basic), Excel (VLOOKUP, PivotTables, Solver, Macros), SAS, SPSS, REST API Integration, HTML/CSS (Basic)

Data Warehousing & Modeling: ETL (SSIS, Redshift, Python-based workflows), Data Modeling (Star & Snowflake Schema), Data Validation & Governance, Data Automation

Statistical Methods: Descriptive & Inferential Statistics, Regression, Correlation, ANOVA, Forecasting, Predictive Modeling Support

Methodologies & Frameworks: Agile, Waterfall, ITIL.

Software & Platforms: MS Access, Slate (CRM), Google Forms, MS Word, PowerPoint.

Business Intelligence & Reporting: Power BI (DAX, Role-Based Security, Data Model Optimization), Tableau, SSRS, Compliance & Narrative Reporting, Dashboard Design

Student Information Systems & Compliance: Banner SIS, Workday (Exposure), Slate, Terradotta, IPEDS Reporting, FERPA Standards, Institutional Research Data Processes

Professional Experience

Study Abroad Program Support Data Assistant

Office of Study Abroad, Central Michigan University, Mount Pleasant, MI   Aug 2025 – Present

- Optimized program data workflows in Terra Dotta by redesigning forms and templates; Excel automation applied to cut manual entry errors by 20%.
- Collected, cleaned, and analyzed student mobility data with SQL and Excel, producing insights that improved compliance tracking and participation monitoring.
- Created and updated study abroad faculty-led program pages in Terradotta, integrating data from program proposals to ensure accurate and consistent program information.
- Collaborated with the Assistant Director to develop and analyze budget reports for faculty-led study abroad programs, improving financial transparency.
- Provided technical support for the study abroad team, resolving Terradotta-related IT issues to enhance workflow efficiency.

Data Analyst Intern

Yiddish Arts and Academics Association of North America (YAANA), San Diego, CA

Feb 2025 – Aug 2025

- Collected, cleaned, and processed large-scale survey and YAANA web data using Excel, SQL, and Python (Pandas) to ensure accuracy, consistency, and completeness for occupational and programmatic analysis.
- Collaborated on form automation and dashboard development with custom formatting using HTML/CSS elements within web-based templates.
- Designed and administered surveys for program effectiveness, analyzing response trends to guide continuous improvement.
- Gained hands-on exposure to REST APIs and JSON formats during data collection and third-party tool integration for program analysis.
- Participated in solution/code reviews, sprint meetings, and retrospectives to align reporting solutions with organizational goals.
- Implemented data validation checks to ensure survey and program data integrity before dashboard publication
- Developed and maintained interactive dashboards and detailed visual reports using Excel, Power BI, and Tableau to present insights to internal and external stakeholders. Delivered regular progress reports and presentations, monitored response rates and data quality, and collaborated cross-functionally to drive continuous improvement based on survey findings and trend analysis.

Graduate Student Assistant

Office of Study Abroad, Central Michigan University, MI   Jan 2024 – Dec 2024

- Maintained and enhanced study abroad web-based applications leading to improved functionality, a 20% reduction in user issues, and a 15% boost in engagement.
- Collaborated with university communications for content approvals; managed image resizing and optimization tasks.
- Supported planning and execution of student-focused events, workshops, and info sessions to promote study abroad and international engagement programs.
- Led special projects alongside the Director to improve student engagement and advising strategies, including data collection for program evaluation and student support enhancements
- Collaborated with cross-functional teams to develop content, plan student events and align operational goals through data-driven strategies.

Graduate Student Assistant

Office of International Affairs & Graduate Recruitment, CMU, MI   Jan 2023 – Dec 2023

- Provided academic and immigration advising to over 500 international students, helping them navigate CMU policies, course registration, and visa compliance via phone, email, and in-person meetings.
- Evaluated 1000+ admission applications on Slate and advised applicants on academic program requirements, application materials, and enrollment options.
- Collaborated with the Executive Director on special projects, providing data support and advising insights to enhance international student services and outreach strategy.
- Delivered actionable dashboards and reports for university leadership, enabling evidence-based decision-making in enrollment management and student success strategies.
- Executed clerical tasks including filing, copying, and mail distribution; provided administrative support by managing incoming calls, coordinating files, and sorting mail.

Software Engineer

Cognizant Technology Solutions (CTS), Hyderabad, India   Jan 2020 – Dec 2022

- Delivered end-to-end web solutions leveraging Microservices and SOA architectures, improving modularity and scalability.
- Automated regression and integration testing with Selenium, Postman, and JUnit, reducing production defects by 30%.
- Migrated legacy applications to Azure Cloud, optimizing cost and performance for enterprise clients.

- Collaborated with stakeholders and cross-functional teams during sprint planning, code reviews, and retrospectives in Agile environments.
- Mentored junior engineers and facilitated knowledge-sharing sessions to promote coding best practices and design patterns.
- Produced technical documentation and process workflows using Microsoft Word, Visio, and Lucid chart for internal and client-facing use.

Projects
Online Voting System

- Designed and developed a secure, scalable voting system using Python (Tkinter & CustomTkinter) and MySQL, focusing on system optimization and resource efficiency. Implemented secure voter authentication, real-time vote counting, and a user-friendly graphical interface to ensure integrity and usability throughout the voting process. Engineered robust backend logic to handle concurrent user actions while maintaining data integrity and fault-tolerance. Enabled reliable storage and retrieval of election data through MySQL integration, ensuring persistence and auditability of voting records. Strengthened full-stack development and data handling skills aligned with system security and analytics, contributing to career progression in Data Analytics and Data Engineering.
  ### Healthcare Cost and Insurance Data Analysis
- WEB scraped and processed 15.6M+ records spanning 178,893 HIPAA codes and 400+ insurance providers using Python (BeautifulSoup, Pandas), ensuring data consistency and accuracy.
- Designed and hosted a scalable PostgreSQL database on AWS (EC2, S3, RDS), securely managing 6M+ records and delivering APIs, improving healthcare cost transparency and enabling informed decision-making for users.

Netflix Product Strategy and User Experience Analysis
- Administered product research and competitive analysis, developing PRDs, user surveys, and pain point assessments to refine features, enhance user experience, and support data-driven decision-making for strategic product improvements.
- Collaborated with a team of students to oversee feature development and analyzing Netflix's innovation, market expansion, user experience optimization and user engagement strategies as part of an academic project.

Education
- Master of Science – Information Systems (Business Data Analytics & Statistics), Central Michigan University, Mount Pleasant, MI — Jan 2023 – Dec 2024 | GPA: 3.75
- Bachelor of Technology – Electronics & Communication Engineering, Sri Indu College of Engineering & Technology, India — Aug 2016 – Apr 2020 | GPA: 8.8/10