

# VENKATA NAGA SAI PRATAP GUDE

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## EDUCATION

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**University of Michigan, Ann Arbor**

Expected May 2023

**Master of Health Informatics & Graduate Certificate in Precision Medicine**

GPA: 3.95/4.0

Relevant Coursework: Health Infrastructure Management, Data Science, Health systems, Population Health & Health Policy, Consumer Health Informatics, Database and Server Management, Programming, Quality Science, Performance Analytics, Research Methodologies, Project Management, and Consulting.

**Government Dental College and Hospital, India**

2014 - 2019

**Bachelor of Dentistry Surgery**

GPA: 3.86/4.0

Relevant Coursework: Public Health Dentistry, Health Systems, Payer Systems, Clinical Dentistry, and Research

## EXPERIENCE

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**Michigan Medicine**

*Ann Arbor, MI*

Research Assistant

Jan 2023 - Present

- Utilized REDCap electronic database and EndNote to manage and analyze data efficiently, resulting in streamlined research processes and accurate data analysis.
- Coordinated and took a leading role in the development of manuscripts associated with existing data in partnership with a faculty investigator, resulting in the successful drafting of research findings in peer-reviewed journals.

**Stanford Health Care**

*Stanford, CA*

In-Patient Clinical Applications, Systems & Epic Op-time Intern

Jun 2022 - Aug 2022

- Cleaned and documented 36 clinical applications, including supporting 5 applications in the Neurology and Respiratory departments, increasing workflow efficiency by 20%.
- Assisted in testing (including UAT, Application, and Integrated testing) in Epic based on 4+ use cases and clinical workstations, resulting in the implementation of an enhancement to a clinical application and increasing the quality of operating clinical systems by 15% through server and database management.

**University of Michigan**

*Ann Arbor, MI*

Teaching Assistant : HMP 600, HMP 669, NURS 539

Aug 2022 - Present

- Clarified conceptual queries on payer-payee-provider systems, population health, CHNA, SDOH, Project Charter, Quality analysis, Balanced score cards, Process Improvement, Cause & Effect analysis, Mapping, and Health database management using SQL and statistical analysis in R through discussion sessions and office hours for student cohort of 250 students.

Research Assistant

Apr 2022 - Aug 2022

- Conducted quantitative and qualitative analysis of reports from the DEI 1.0 action plan, summarizing key findings and areas for improvement in DEI 2.0 and generated departmental publications for 3 key areas: People, Process, and Products.
- Performed market analysis to identify key alumni and speakers in the field to be used as future resources for the Evaluation Unit: Office of DEI.

Apprentice Research Intern (CBDA/Virtual Hospital/Data Analytics)

Feb 2022 - Apr 2022

- Utilized real-time efficient strategy to deconstruct and analyze large datasets using R/RMD/RStudio, RShiny Services, SQL, and Python/Jupyter Notebook to predict clinical outcomes using statistical modeling tools.

- Utilized relational databases and structured query language (SQL) to efficiently extract and analyze data from multiple case studies, including vital signs, laboratory results, and free-text data, to streamline data processing and enhance data quality by 20% by dealing with missing data.

## SKILLS

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**Technical Skills:** SQL (via access, SQLite, python), R, Python (pandas, NumPy, Scipy, scikit learn), Shell, GIT, GitHub, Server Management, Database Management, Machine Learning, NLP, MS Office (Access, Sharepoint), GSuite, Statistics, Tableau, Power BI, Minitab, HTML, CSS, Django.

**Clinical Informatics:** Patient data de-identification using HIPAA identifiers, Electronic Health Records: Order retrieval, Provider order entry, modification, and creating pop-up alerts, RedCAP, ServiceNow, Testing (Scripts) in EPIC based on user personas, Applications' Integrated testing and HL7 Fundamentals (in progress: V2.X messages, CDA R2 documents, Identify FHIR specifications and resources).

**Others:** Change Management, Client Engagement, Teamwork, Background research, User Needs assessments, SWOT Analysis, The KJ Method, Thematic analysis, Design thinking, and Contextual design.

## PROJECTS

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**Predictive Modeling for Chronic Heart Failure & Breast Cancer Risk** Performed literature research regarding health variability, risk factors, and key measurements. Cleaned and ran primary analyses on obtained data to determine the presence of class imbalance, performed PCA and feature selection for binary and multivariate classification modeling. Models address whether age and the presence of chronic conditions such as diabetes as predictors for a suspect mortality rate for patients with chronic heart failure, and cytometric sample variables in predicting the risk of breast cancer.

**Omega Case Study, Database Management** Ran 20+ SQL queries via Access to derive meaningful sub-data from retired hospital datasets using DRGs. Evaluated data and created visualizations in R and Tableau, such as a bar graph of profits across departments. Composed a report detailing analyses and recommendations for third-party merger with 2 departments.

**Hospital Admission Study, Database Management** Created a database using DataGrip and a hospital admission dataset to perform queries for business operations. Utilized SQL to extract and integrate data using different types of joins and performed query performance tuning by creating and modifying indexes and changing query structures. Managed the database and ensured data integrity (normalization, entity integrity, referential integrity, and domain integrity) by building relational schemas and ERD diagrams based on business requirements in Access, ERDPlus, and Datagrip and performing CRUD operations.

**Consulting and Project Management** Worked as a student peer consultant for the University of Michigan Engaged Learning office & RevKeep, a digital health system revenue cycle management software. Conducted semi-structured contextual interviews with executives to identify the key pain points to provide recommendations for our clients. Created Project Charter, Balanced Scorecards, and Gantt Chart in Asana. Analyzed data via affinity walls in Miro to configure techniques for client challenges. Co-authored a consulting report detailing the developed recommendations and implementation methods.