

Sachin Karki

University of Mississippi Medical Center – School of Population Health, Department of Data Science

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EDUCATION

University of Mississippi Medical Center, Jackson, Mississippi

PhD in Biostatistics and Data Science (~2028)

M.S in Biostatistics and Data Science (~2025)

Texas Woman's University, Denton, Texas

B.S in Informatics. Minor in Data Science (2021) *Honors: magna cum laude*

Dallas College Brookhaven Campus, Farmers Branch, Texas

Associate of Science in Liberal Arts and Sciences (2019)

RESEARCH EXPERIENCE

Student Researcher, The University of Mississippi Medical Center (2023 to Present)

- Contributed research participation to National Clinical Cohort Collaborative (N3C) workshops, gaining in-depth training on leveraging large-scale health data to address COVID-19-related research questions.
- Conducted multiple independent research projects within the Data Science department
- Authored two manuscripts as first author, currently under review for presentation at prestigious academic conferences. (SPIE and MSACAD)
- Developed proficiency in different tools and techniques used for statistical analysis and research methodologies to analyze and address complex analytical questions.
- Contributed to comprehensive literature reviews and peer-reviewed academic articles for the principal investigator and associate professor.
- Attended departmental seminars featuring expert speakers, enhancing knowledge of real-world data, cutting-edge research methodologies and clinical applications.
- Collaborated with other student researchers to design and execute innovative research projects.

PROFESSIONAL EXPERIENCE

IT Associate and Coordinator, Amazon Inc. (2022 to 2023)

- Assisted in executing high-end costly IT projects (code name: Project Insanity) involving complete overhaul and restructuring of sitewide computational assets. Played an instrumental role by independently completing 50 out of 200 tasks.
- Facilitated the allocation and maintenance of IT inventory, equipment throughout the Fulfillment Center.
- Resolved trouble tickets from SNOW (ServiceNow) system by fixing sitewide technical and computational issues.
- Assisted operation team, technicians and engineers in provisioning, diagnosing and trouble-shooting hardware and software like thin clients, PCs, scanners, radio, portable handheld terminals, TC devices, zebra printers, etc.
- Executed procurement and audit of assets in the IT department.
- Organized the storage of provisioned equipment as well as RMA and repair process of all devices under warranty.

Social Media Analyst (Intern), DataReady DFW (2020)

- Designed infographics, dashboards and visuals using tools like Tableau, Canva etc. to create data-driven content.
- Extracted actionable insights highlighting
- Conducted data entry, organized datasets, prepared data logs for marketing and advertising team.
- Assisted in boosting company's social media presence with digital marketing and content creation for online platforms.
- Addressed the need for weekly content by utilizing marketing inputs, panel meetings, feedbacks and progress reports.
- Researched emerging topics from social media trends to optimize campaign reach and impact.

ICQA Associate, Amazon Inc. (2019 to 2022)

- Performed manual and routine checks of inventory to increase quality assurance by 50% using amazon proprietary technology and DBMS.
- Analyzed, processed and controlled inbound and outbound shipments, in-depth search of items to ensure 0% error rate.
- Aided with other associates in problem-solving, counting, amnesty, damage-land and loss prevention.
- Instructed and cross-trained old and new hire(s) about the system and their technical roles and responsibilities

PUBLICATIONS (UNDER REVIEW)

1. **Karki, S.** Zheng, Y. Exploring and Comparing Machine Learning Models to Predict Benzodiazepine Prescriptions. Abstract Submitted. *The International Society for Optics and Photonics (SPIE)*.
2. **Karki, S.** Zheng, Y. Predicting Survival in Heart Failure with Classification Models. Abstract Submitted. *Mississippi Academy of Science (MSACAD)*.

ACADEMIC PAPERS AND PROJECTS

1. *Predicting the Accuracy of Cancer with Adaptive Boosting*, Final Project [CSCI 4723].
<https://github.com/sachin-karki/ML-with-Adaptive-Boosting>
2. *An Insight into Smartphone Obsession and Its Adverse Effects*, Undergraduate Capstone Project [CSCI 4923]
<https://github.com/sachin-karki/smartphone-data-capstone-project>
3. *Academic Information Database (JAVA)*, Final Project [CSCI 2493]
<https://github.com/sachin-karki/Academic-Information-Database>
4. *Nutrition Tracking Database, SQL (MySQL Workbench)*, Final Project [CSCI 3423]
<https://github.com/sachin-karki/Nutrition-Tracking-Database>

RESEARCH INTERESTS

- Machine Learning/Classification Algorithms • Predictive/Regression Modeling • Genomic Data Analysis
- Statistical Analysis • Bioinformatics/Biostatistical Data Analysis • Survival Data Modeling and Analysis
- Healthcare Research utilizing Electronic Health Records (EHR), Clinical and Medical Data

RELEVANT COURSEWORKS

- Statistical Inference • Advanced Analytics • Statistical Inference in Genetics • Survival Analysis • Epidemiology
- Machine Learning and Data Science • Applied Computational Think • Information Retrieval
- Database Management • Data Structure and Algorithms • Advanced Data Modeling and Visualization
- Intro to Python Programming • Intro to R Programming • Intro to SAS Programming

SKILLS

Programming Languages: Python, R, STATA, SAS, SQL

Data Visualization: Tableau, MS Excel, MS Visio

Software/Tools: PyCharm, Jupyter Notebook, Visual Studio Code, Eclipse, Terminal, Git, SNOW

HONORS AND AWARDS

Dean's Scholarship, The University of Mississippi Medical Center (2023)

Magna Cum Laude, Honor Student, Texas Woman's University (2021)

Texas Public Education Grant (TPEG) Scholarship, State of Texas (2021)

Deans' and Chancellor's List Scholar, Texas Woman's University (2020 – 2021)

Urban Fellow Scholarship, Jane Nelson Institute for Women's Leadership (JNIWL) (2020)

International Student Merit Scholarship, Texas Woman's University (2020 – 2022)

LEADERSHIP ACTIVITIES

Student Body Representative for Data Science Department School of Population Health, UMMC.

Student Ambassador, John D. Bower School of Population Health, University of Mississippi Center

MEMBERSHIP AND ASSOCIATIONS

American Statistical Association (ASA), Member

REFERENCES

1. Jeannette Simino, PhD.
Interim Chair, Department of Data Science, SOPH - UMMC. Jackson, MS
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(601)815-8128
2. Yufeng Zheng, PhD.
Associate Professor, Department of Data Science, SOPH - UMMC. Jackson, MS
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3. Seth Lirette, PhD.
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4. Wondwosen Yimer, PhD.
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5. Marcus Winn
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