Sukrut Shishupal, PhD

Machine Learning | Health Data Science | Biomedical Informatics

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PROFILE

Biomedical informatics researcher with a PhD, developing interpretable time-series methods for environmental and healthcare data. Experience in scientific data pipelines, geospatial analysis, machine learning, and collaborative health research.

TECHNICAL STRENGTHS

Programming: Python, R, SQL, Java
Methods: Time-series analysis, shapelet methods, feature engineering, clustering, statistical modeling
Research workflows: Large-scale data preparation, geospatial analysis, high-performance computing

EXPERIENCE

Graduate Research Assistant | University of Utah | Nov 2022-present

- Develop temporal pattern extraction and reusable exposure representations for the SMARTER project.
- First author of an IEEE ICHI 2026 paper on a reusable exposure-pattern library derived from EPA data spanning 2004-2024, with 7- and 30-day windows.
- Contribute to telemedicine analysis and visualization, with co-authored publications in JMIR and JAMIA Open.

Graduate Teaching Assistant | University of Utah | Aug 2023-present

- Co-developed materials and delivered lectures for Introduction to Programming (Fall 2023) and Biomedical Data Wrangling (Spring 2024 and Spring 2026).

Trainee Software Developer | Automation Teknix | Nov 2020-May 2021

Software development experience in the automation industry.

SELECTED RESEARCH

Nursing EHR activity: Investigate local temporal patterns using 30-minute windows of activity recorded in 5-minute bins. Ongoing research.

Protein binding affinity: Investigated graph-based features and machine learning in a thesis study of 101 heterodimeric protein complexes, comparing network representations with cross-validation.

EDUCATION

PhD, Biomedical Informatics | University of Utah | 2026
Advisors: Dr. Kathy Sward and Dr. Ramkiran Gouripeddi

MS, Biomedical Informatics, Data Science Track | University of Utah | 2024
Integrated BS-MS, Bioinformatics & Biotechnology | Savitribai Phule Pune University | 2020

SELECTED PUBLICATIONS

First author. A Reusable Library of Exposure Health Machine Learning Primitives. IEEE ICHI. 2026;481-489. doi:10.1109/ICHI69079.2026.00272

Co-author. Social vulnerability, lower broadband internet access, and rurality associated with lower telemedicine use in U.S. Counties. JAMIA Open. 2025;8(4):ooaf056. doi:10.1093/jamiaopen/ooaf056

Second author. Travel Distance Between Participants in US Telemedicine Sessions With Estimates of Emissions Savings: Observational Study. JMIR. 2024;26:e53437. doi:10.2196/53437