Saurabh Kalia

Urbana, IL | saurabh.kalia@yahoo.com | linkedin.com/saurabhkalia | dev.saurabian.com

RESEARCH INTERESTS

Human-centered AI and NLP for assistive communication; silent speech interfaces; accessible workplace communication; voice identity and user agency.

EDUCATION

Georgia Institute of Technology — Atlanta, GA
Master of Science in Computer Science (Artificial Intelligence specialization) — Exp. December 2026
GPA: 3.85/4.00

- Artificial Intelligence, Machine Learning, Human-Computer Interaction, Natural Language Processing, Cognitive Science

Western Governors University — Salt Lake City, UT
Master of Science in Information Technology Management — January 2026

Himachal Pradesh University — Shimla, India
Bachelor of Technology in Information Technology — June 2014

RESEARCH EXPERIENCE & PROPOSALS

AI and Hiring — Spring 2026
CS 8903 Special Problems — Georgia Institute of Technology

- Performed literature review and contributed to group discussions for a doctoral student's research project on AI and hiring.
- Contributed to IRB document preparation and research-participant mock interviews.

Infrastructure of Inclusion for Speech-Impaired Persons — Spring 2026
CS 8803 Introduction to Research — Georgia Institute of Technology

- Prepared a proposal pairing minimally obtrusive acoustic-sensing eyewear with LLM-enhanced vocal re-synthesis for assistive workplace communication.
- Formulated research questions on technical information exchange, perceptions of professional authority and communicative competence, and voice cloning's relationship to user identity.

Cognitive Reconfiguration of Second Language Representation in the Age of AI-Mediated Acquisition — Fall 2025
CS 6795 Introduction to Cognitive Science — Georgia Institute of Technology

- Performed an interdisciplinary literature synthesis examining evidence on how AI-mediated translation and summarization technologies reshape cognitive representations of second languages.
- Critically evaluated evidence regarding cognitive load reduction, lexical encoding, receptive-productive competence asymmetries, and neuroplasticity in AI-assisted language learning environments.
- Developed evidence-based recommendations for educational interventions that balance AI assistance with cognitively demanding learning activities to support durable language acquisition and retention.

Data Model Modernization for Reporting Analytics — Fall 2025
C498 Master's Capstone — Western Governors University

- Developed a planning and mock implementation report for OBIEE-based self-service reporting, including a semantic layer, dimensional data modeling, ETL, data governance, and stakeholder requirements.
- Compared BI approaches and developed cost estimates, a risk register, resource allocation, and a phased six-month implementation plan.
- Specified an evaluation framework covering reporting time, adoption, user satisfaction, data quality, and performance.

PROFESSIONAL EXPERIENCE

Charter Communications Maryland Heights, Missouri
Solutions Architect April 2023 – Present

- Designed mobile billing solutions for systems supporting 12 million subscribers across telecom applications such as customer management, ordering, CRM, and accounts receivable modules.
- Led technical discovery and solution design, prepared architecture documentation, and validated implementations with vendors and cross-functional stakeholders.
- Used SQL and PL/SQL across Oracle, Teradata, and Snowflake to investigate issues and validate plans, promotions, credits, and debits; automated metrics reporting.

Credit Suisse Pune, India
Software Development and Architecture Engineer October 2019 – January 2023

- Designed and led development of a Regulatory Reporting Application using PL-SQL, Informatica, OBIEE, and Java to automate data integration and manual handoffs.
- Designed an OBIEE data model for automated variance analysis, enabling 80% faster report preparation; led regulatory-change automation modules that improved delivery timelines by 50%.

Amdocs Pune, India
Software Developer December 2014 – September 2019

- Developed provisioning logic using Java, PL/SQL, and shell scripts; integrated J2EE applications with upstream ordering through Enterprise JavaBeans impacting 3 million subscribers.
- Enhanced a production database-update tool, reducing errors by up to 75%; supported releases, resolved incidents, and mentored junior developers.

ACADEMIC PROJECTS

Forest Cover Type Classification Summer 2026
CS 7641 Machine Learning — Georgia Institute of Technology

- Benchmarked Decision Trees, kNN, SVMs, and neural networks on a stratified 20,000-record Covertype sample with 54 features and seven classes; Decision Trees achieved the strongest supervised-learning performance.
- Used a 64/16/20 train/validation/test split and fitted preprocessing exclusively on training data to prevent leakage; evaluated class imbalance using Macro-F1, balanced accuracy, confusion matrices.
- Compared SGD, Adam-family optimizers, and randomized final-layer optimization under controlled compute budgets; investigated learning rate, momentum, and regularization.
- Improved Adam's test Macro-F1 from 0.6193 to 0.6710 using label smoothing, demonstrating the impact of regularization on generalization.
- Evaluated K-Means and Gaussian Mixture Models alongside PCA, ICA, and randomized projections, measuring cluster quality, label alignment, and downstream neural-network performance.

National Parks Seasonal Demand Analysis Fall 2026
CSE 6242 Data & Visual Analytics— Georgia Institute of Technology — In progress

- Developing a Recreation.gov campsite-demand forecasting project using 2022–2025 data; responsible for data integration and modeling, with planned comparison of SARIMA forecast against a seasonal naive baseline.

TECHNICAL SKILLS

Languages: Python, Java, SQL, PL-SQL, Unix shell scripting
AI/ML & Data: PyTorch, NumPy, pandas, scikit-learn, Oracle, Teradata, Informatica, OBIEE, Tableau, AWS, Databricks, Snowflake
Tools & Engines: Control-M, Jira, Git, Docker, Jenkins

RECOGNITION AND VOLUNTEERING

Credit Suisse RAVE Gold Bar awards: Partnership, Accountability, Meritocracy, 2020–2022
Amdocs Innovation Week Hackathon runner-up, 2018
TMUS Star Performer of the Year at Amdocs, 2016
Humanitarian OpenStreetMap Team: mapper volunteer, May 2021–Present