

# Sahil Dadhwal

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## EDUCATION

### University of California, Davis

*Master of Science in Computer Science*

Sept. 2024 – June 2027 (Expected)

*Davis, CA*

### University of California, San Diego

*Bachelor of Science in Computer Science — A.S. in Mathematics & Economics*

Sept. 2019 – June 2023

*San Diego, CA*

## TECHNICAL SKILLS

**Languages:** Python, C++, C, CS, Java, JavaScript, SQL, HTML/CSS

**Frameworks & Tools:** FastAPI, React, Docker, Jenkins, Git, pandas, REST APIs, PostgreSQL, SQL Server

**DevOps & Cloud:** CI/CD, Orkes Conductor, Vault, Containerization, ETL Pipelines, Snowflake

**Machine Learning & Data:** scikit-learn, BERT, NLP, Statistical Analysis, Power BI, Tableau, GIS

## EXPERIENCE

### Software Engineer

*BTIS*

April 2024 – Present

*Sacramento, CA*

- Architected and developed Python-based backend systems processing 15+ GB datasets daily from 50+ MongoDB collections, implementing data validation logic that reduced inconsistencies by 90%
- Designed and deployed end-to-end CI/CD pipeline using Jenkins, Vault, and Orkes Conductor, automating deployment workflows across 3+ environments with Docker containerization and scheduled orchestration
- Built scalable data processing framework handling 2M+ weekly records with WCPOLS compliance validation, ensuring system reliability and regulatory adherence
- Developed internal analytics tools and dashboards integrated with Snowflake data warehouse, supporting executive decision-making for \$10M+ strategic initiatives
- Led technical coordination with cross-functional teams of 15+ stakeholders, delivering 8 mission-critical system migration projects with 100% on-time completion

### Team Lead

*First Northern Bank*

June 2023 – April 2024

*Dixon, CA*

- Recognized by CEO and head of HR for exceptional customer service and commitment to client satisfaction
- Led team of 8+ employees, implementing training program that reduced onboarding time by 40% while improving performance metrics by 25%
- Conducted risk assessments for transactions up to \$2M and created operational dashboards, reducing processing errors by 30%

## TECHNICAL PROJECTS

### Bird Species Distribution Tracker | *Python, React, FastAPI, MongoDB, ML, GIS*

April 2025 – May 2025

- Built full-stack web application analyzing 5M+ bird observation records to visualize climate change impact on species migration patterns using GBIF and PRISM climate APIs
- Implemented machine learning forecasting models predicting future species distribution shifts with interactive geographic heatmaps and seasonal analysis visualizations
- Architected FastAPI backend with MongoDB for processing multi-gigabyte geospatial datasets and React frontend with real-time data filtering across 10+ North American species

### AI Toxicity Detection in Discussions | *Python, BERT, APIs, Statistical Analysis*

Jan. 2025 – March 2025

- Engineered analysis pipeline examining correlation between toxic communication and developer productivity across GitHub repositories using GitHub Archive data and Incivility Dataset with 1M+ interactions
- Implemented BERT-based toxicity detection model with API rotation system processing repository metrics, commits, and issue resolution patterns
- Conducted statistical analysis using Spearman and Pearson correlations revealing significant relationships between communication patterns and project outcomes