

SUNNY SHRESTHA

[LinkedIn](#) – [GitHub](#) – [Google Scholar](#)

EDUCATION

MSc, Computer Science | University of Denver, Denver, CO | June 2023

Thesis: **Gender-Based Bias Mitigation Techniques in Algorithms for Music Recommender Systems**

- Implemented Collaborative Filtering mRS, bias mitigation techniques, and user study involving NLP methodologies in a sample of 20 college students.

BSc. Computer Information Technology | Minnesota State University- Mankato, MN | June 2016

RESEARCH INTERESTS

My research examines responsible and human-centered AI, with a focus on bias amplification with human and AI interaction, AI governance, and interdisciplinary approaches to aligning machine learning systems with societal values and equitable public outcomes.

GRANTS & FUNDING

An Interdisciplinary Investigation of Interactions Between Human and AI Sexism through a Large-Scale Survey | Faculty Research Fund (FRF) (\$3000) | University of Denver, Denver, CO | 2025-2028

Role: Senior Personnel with Professor Benjamin Xie (PI) and Professor Lindsey Feitz (Co-PI)

PUBLICATIONS

- Exploring gender biases in ML and AI academic research through systematic literature review, *Frontiers in AI* 2022 (first author)
- SecureLD: Secure and Accessible Learning for Students with Disabilities, *HFES* 2022 (first author)
- SoK: An Evaluation of the Secure End User Experience on the Dark Net through Systematic Literature Review 2022
- Parents, Educators, & Caregivers Cybersecurity & Privacy Concerns for Remote Learning During COVID-19, *ACM SIGCHI2021*
- SoK: A Systematic Literature Review of Bluetooth Security Threats and Mitigation Measures, *EISA* 2021 (first author)

TEACHING EXPERIENCE

Doctoral Researcher | University of Denver | September 2021 – Present, US, CO, Denver

- Design and conduct mixed-methods research focused investigating bias amplification, privacy and human-AI interaction in machine learning systems
- Apply computational methods (NLP and statistical data modeling, experimental design) to examine algorithmic behavior and user experience across socio-technical contexts.
- Publish peer-reviewed academic papers at venues such as ACM SIGCHI, CSCW, and *Frontiers in Artificial Intelligence*.
- Develop and evaluate algorithms frameworks to assess performance, fairness and human-centered success criteria.
- Translate empirical findings into accessible insights for interdisciplinary audiences spanning computing, policy, and social sciences.
- Lead discussions and instructional initiatives emphasizing ethical responsibility in computer science, advancing critical awareness of bias, accountability, and human centered AI design

Adjunct Faculty | University of Denver | October 2024 – December 2024, US, CO, Denver

- Designed and delivered lectures on computing fundamentals, problem solving, current technology trends and ethics in computer science for 20+ first year students
- Developed course materials, interactive activities, and assessments to promote analytical thinking and student engagement.

PROFESSIONAL EXPERIENCE

Data & Innovation Analyst | City of Longmont | October 2023 – December 2025, US, CO, Longmont

- Automated manual data workflows, increasing efficiency and improving data reliability across City departments.
- Led migration of traffic crash data from flat files to ArcGIS geospatial datasets, directly supporting the City's Vision Zero initiative.
- Converted legacy and web-based data sources into structured, analysis-ready datasets.
- Built and operationalized Snowflake data warehouse instances to centralize data and enable scalable analytics.
- Delivered policy-driven dashboards and visualizations (Power BI) to support executive and policymaker decision-making.

Software Engineer & DevOps Engineer | Cloudmed Revenue Intelligence Solutions | January 2019 – July 2020, US

- Implemented data ETL process automation by administering weekly code deployment using Git and Docker, leading to a 72% reduction in human resource requirements.
- Managed Azure cloud services architecture to ensure efficient and reliable product deployment.
- Led the development and implementation of CI/CD pipelines and automated QA/QC practices.
- Streamlined, monitored, and enhanced systems such as AWS, PostgresDB, and fireworks across various platforms by using technical skills in infrastructure management and CI/CD tools.

Associate Software Developer | Acustream Inc | September 2016 – December 2018, US, CO, Lafayette

- Developed and implemented Python algorithms for data processing and invoicing, leading to an 84% increase in revenue generation.
- Created KPIs to assess the health of architecture components and the overall system, contributing to 66% increase in performance.
- Contributed to back end and front-end development work in high-demand situations.
- Utilized project management tools, such as JIRA and Confluence, to efficiently track and update issues, and create standard operating procedures (SOP) for consistent and effective operations.

SKILLS

Programming Languages: Python, Java, C++, R (with a focus on NLP techniques)

Data Analysis and Visualization: Pandas, Matplotlib, Seaborn, MATLAB, Power BI, Tableau

ML Modeling: Logistic Regression, K-Nearest Neighbors, Random Forest, SVM, Cross-Validation, Feature Generation

Database: Postgres SQL, MS SQL, MySQL

ML Library: TensorFlow, Scikit-learn

Applications: Figma, Atlassian (JIRA, Confluence), Git, Gazebo, AWS, Slack