

Kushagra Tandon

[Linkedin](#) | [Portfolio](#) | ktandon4@asu.edu | (602) 919-8742 | [Github](#)

EDUCATION

Bachelor of Science in Computer Science

Arizona State University

May 2026
Tempe, Arizona

Relevant Coursework: Data Structures & Algorithms, Operating Systems, Distributed Software Development, Computer Network Security, Statistical Machine Learning, Human-Computer Interaction, Applied Linear Algebra, Probability & Statistics

SKILLS

Languages: Python, C/C++, Java, JavaScript, SQL, Rust

Machine Learning & Data: TensorFlow, XGBoost, Scikit-learn, Pandas, NumPy, NLP, Time-Series Analysis, Model Evaluation & Backtesting

Web & Application Development: React.js, Flask, Django, Node.js, TypeScript, REST APIs, SwiftUI

Databases & Cloud: MongoDB, MySQL, AWS, Firebase

Tools & Systems: Git, Linux, CI/CD, Docker, OpenCV, Agile/Scrum

PROJECTS

Peer-to-Peer Rental App | *SwiftUI, Firebase, MVVM*

- Built a **mobile app** enabling users to list, book, and manage rental equipment using **Firebase (Auth, Firestore, Storage)**.
- Designed scalable **MVVM** architecture with reactive UI via **@StateObject, @ObservedObject, and @Published**.
- Integrated **real-time** booking, chat, and listing features with Firestore-backed data synchronization.

Sentiment Analysis Bot (News-driven financial signal generation and return forecasting) | *Python, NLP, Pandas, Quantitative Research* [link](#)

- Built an end-to-end news-driven trading research pipeline using **free RSS data and NLP sentiment analysis**.
- Ingested and deduplicated **1,000+ daily financial headlines** from multiple sources to reduce noise.
- Converted aggregated sentiment into **systematic Buy/Sell signals using rolling-window smoothing**
- Backtested strategy with vectorized **Pandas/NumPy engine** and evaluated **return, CAGR, Sharpe, and drawdown**

Credit Risk Prediction (Credit risk modeling for financial decision-making) | *Python, Flask, React, REST APIs* [link](#)

- Designed an end-to-end ML inference system to **predict credit default risk** via a Flask API consumed by a React client.
- Constructed **numerical feature vectors to represent credit behavior** from repayment status, billing cycles, and payment amounts..
- Returned **calibrated probability scores to enable risk stratification** using predefined severity thresholds.

Intent-Level Market Model | *Python, FastAPI, PostgreSQL/pgvector, SQLAlchemy, Docker, JS* [link](#)

- Built a **multi-tenant intelligence platform** that ingests hiring and filing signals to infer company intent with confidence + evidence.
- Computed semantic drift (embeddings + keyword/stack shifts) and generated rule-based intent hypotheses (IPO prep, cost pressure, pivots).
- Added outcome tracking and backtesting to measure **match rate + lead time against IPO/layoff/funding events**.
- Implemented **tenant-scoped REST APIs** and a demo frontend showing dashboards, timelines, and evaluation charts.

EPL Betting Model — Model vs Market Analysis | *Python, XGBoost, Scikit-learn, Pandas, Streamlit* [link](#)

- Built a **calibrated XGBoost model** for EPL outcomes, achieving **ROC-AUC \approx 0.79** on **570 out-of-sample matches**.
- Compared **model vs bookmaker-implied probabilities** using odds-derived features and **ELO ratings to identify market edges**.
- Backtested **fixed-stake and Kelly strategies** across **100+ candidate bets**, analyzing ROI and drawdowns.
- Deployed an **interactive Streamlit dashboard** to explore predictions, edges, and bankroll simulations.

EXPERIENCE

Research Aide

ASU School Of Earth & Space Exploration

October 2023 - May 2025
Tempe, Arizona

- Developing **virtual field experience modules** for the NSF-funded **WORM Portal project**, enhancing **user engagement**.
- Collaborating with **Dr. Reano and an interdisciplinary team** to ensure **scientific accuracy** and **cultural relevance** in immersive learning experiences.
- Integrating **Indigenous knowledge frameworks** into educational content to create **inclusive and impactful materials**.

Software Development Intern

Hindustan Aeronautics Limited

June 2023 - August 2023
India

- Developed and optimized **internal aerospace monitoring dashboards** using **HTML, CSS, JavaScript, and Java Servlets**, improving user experience and load performance.
- Designed **modular web components** to simplify code maintenance and enable reuse across multiple internal tools.
- Worked with cross-functional engineering teams to ensure accurate **real-time telemetry data**, enhancing reliability of critical aircraft monitoring systems.

LEADERSHIP EXPERIENCE

Secretary

TEDx Club, Arizona State University

September 2023 - Present
Tempe, Arizona

- Managed **30+ TEDx event meetings**, ensuring **organizational efficiency** and **alignment of team goals**.
- Strengthened **team collaboration** across **15+ members**, facilitating **strategic planning** for high-impact events.