

Kushagra Tandon

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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 ≈ 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.