

# Khushbu Adhikari

## **EDUCATION**

UNIVERSITY OF COLORADO BOULDER, Boulder, CO Fall 2025 *Bachelor of Science Computer Science*

- Business Minor
- Relevant coursework: Data Mining, Data Science with Probability and Statistics, Algorithms, Data Structures, Linear Algebra, Discrete Structures, Database Systems

## **SKILLS**

- Programming Languages: Objective C++, Python
- Technical: Tableau, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, SQL, Machine Learning, Regression Analysis, MATLAB experience, Microsoft Office Suite (Word, PowerPoint, Excel), Computer-Aided Design (Onshape, Tinkercad)
- Soft: Analytical Thinking, Problem-Solving, Communication, Attention to Detail, Team Collaboration, Adaptability, Time Management and Organization

## **PROJECTS**

Analyzing MMA Fight Data for Performance Insights and Safety Trends

### ***Leader***

- Conducted comprehensive statistical analyses and developed machine learning models to identify key performance indicators in MMA
- Utilized Python and visualization libraries to generate actionable insights
- Created detailed visualizations to communicate findings effectively, highlighting performance predictors
- Managed complex data preprocessing tasks, including handling missing values and feature engineering, demonstrating proficiency in data cleaning and management
- Integrated datasets from various sources, performed exploratory data analysis, and presented practical insights into performance optimization and safety trends

Advanced Computer Vision for Autonomous Navigation

### ***Leader***

- Spearheaded the creation of a YOLO-based segmentation model that leveraged deep learning for real-time obstacle avoidance and path planning
- Implemented convolutional neural networks to classify and accurately segment dynamic environments
- Integrated heuristic assignment strategies to optimize model performance under varying conditions
- Developed an integrated depth estimation module to enable robust 3D spatial representations
- Collaborated with cross-functional teams to refine algorithms and validate the systems in autonomous navigation scenarios

Business Plan Development: MentorMatch

### ***CTO***

- Collaborated with a team to develop a comprehensive business plan and market analysis for an innovative venture in the e-learning and skill development industry
- Conducted in-depth research to identify key market opportunities and trends in e-learning, ensuring a data-driven approach to strategic planning
- Performed competitive analysis and segmented the target audience to focus on college students, high schoolers, and other lifelong learners
- Outlined strategic entry points, including partnerships with local universities, to establish a platform offering personalized mentorship that sets MentorMatch apart from traditional, impersonal online courses
- Presented actionable insights and a compelling value proposition to stakeholders, emphasizing the venture's unique approach and scalability in competitive market

## **RELATED EXPERIENCE**

INTEGRATED TEACHING & LEARNING PROGRAM, Boulder, CO 2021 - 2022 *Student Leader*

- Facilitated conversations on STEM related topics in the K-12 system by leading classes on engineering topics to increase highschool student awareness and engagement of the engineering field
- Promoted healthy learning environment to boost student engagement and success
- Effectively taught 60 high school students Onshape and Tinkercad
- Developed powerpoint and slides in order to lead classroom