

Shubh Goyal

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Summary: Data-driven professional with a strong foundation in mathematics, statistics, and computer science. Experienced in developing AI-powered tools, real-time computer vision applications, and scalable ML pipelines. Skilled in translating complex data into actionable insights. Strong product sense with a focus on user-centric, impactful AI solutions. Effective communicator with cross-functional collaboration experience.

Education

University of Illinois at Urbana Champaign

August 2021 - December 2025

Bachelor of Sciences in Mathematics and Statistics | Minor in Computer Science | Minor in Computational Science and Engineering

Skills

Languages & Tools: Python, R, SQL, Java, C++, HTML, JavaScript, Swift, LaTeX

Core Skills: Machine Learning, Deep Learning, Computer Vision, Data Analysis, Statistical Modeling, Data Visualization

Soft Skills: Problem Solving, Solution Engineering, Cross-functional Communication, Team Collaboration, Client Needs Analysis, Empathy-Driven Design

Founder of Shot Sync

January 2025 - Present

- Developing Shot Sync, an iOS application, leveraging computer vision and ML-based analytics to deliver real-time basketball shooting form analysis and personalized feedback.
- Engineered a custom pose detection model using MediaPipe and Tensor Flow to capture biomechanics to compare user form against pro benchmarks and issue immediate shot correction suggestions.
- Integrating advanced analytics and AI-driven drill recommendations, dynamically adapting training regimens based on performance data and machine learning insights.
- Implementing a tiered subscription model and intuitive UI to maximize user engagement, offering differentiated coaching levels that cater to both casual athletes and competitive players.

Work Experience

Model Research Scientist – AllyIn.ai

May 2025 - Present

- Built a domain-specific LLM for real estate that learns user preferences from property listings, enabling Zillow-style recommendations and deeper personalization in property discovery
- Developed AllyIn Compass, a custom enterprise assistant that answers company-specific questions using internal documents, videos, and spreadsheets through multi-modal RAG pipelines
- Worked cross-functionally with leadership to align technical solutions with client needs, helping design scalable, AI-driven tools tailored to enterprise workflows and knowledge access

Machine Learning Engineer Intern – California ISO

May 2024 - August 2024

- Developed skills and experience to build SQL queries and incorporate R and SQL across multiple files and establish connections in order to extract data
- Used R packages(R Shiny, highchart, tidyverse, and dplyr) to create an interactive dashboard along with graphs generated by pulling queries using SQL
- Created daily reports to ensure demand forecast and bids for electricity were met each day

Model Training Evaluator – Outlier AI

January 2024 - Present

- Enhanced the computational intelligence of a sophisticated AI model by developing over thousands of diverse prompts to test and advance its capabilities in logic, visual reasoning, and numerical analysis
- Systematically evaluated the AI responses, categorizing them into incorrect, neutral, or correct outcomes and employed this analysis to optimize the mathematical accuracy
- Crafted comprehensive solution guides for each of the problem types, which significantly improves the AI's algorithmic proficiency and its application to real world scenarios

Research

Undergraduate Researcher in Statistics and Psychology

August 2023 - May 2025

- Pioneered an innovative research study aimed at integrating cognitive and psychological assessments, involving the development of tasks to measure students' capabilities in aggregating points and estimating numeric magnitudes. This study was coupled up with the OCEAN 2.0 assessment to examine the influence of personality traits on mathematical abilities and analytical deduction.
- Engineered an interactive web platform using JavaScript and HTML to host a variety of mathematical and personality-based evaluations, enabling participants to explore the interplay between their cognitive functions and psychological traits.
- Showcased research findings through poster presentation at the Mathematical Cognition and Learning Society (MCLS) in June 2024, currently authoring three Cognitive Science Proceedings papers for COGSCI 2025 Conference