Avik Solanki

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Education

University of Illinois Urbana-Champaign Champaign, IL

Bachelor of Science in Computer Engineering *Expected Graduation: May 2028*

- **Relevant Coursework:** Physics: Electricity & Magnetism, Linear Algebra, Integral Calculus, Differential Equations, Discrete Mathematics

Skills

Languages: Python, C, Java, JavaScript, SQL, JSON, HTML, CSS
Libraries/Frameworks: TensorFlow, PyTorch, Scikit-learn, OpenCV, Pandas, NumPy, React.js
Tools: Git/GitHub, CI/CD, VSCode, Linux (Bash/Shell), Azure Cloud (Blob, Cosmos DB), MongoDB, Onshape

Experience

DataraAI Palo Alto, CA

Full Stack Developer *December 2025 – January 2026*

- Built a scalable Python-based ETL pipeline to ingest video data and extract frame-level datasets via OpenCV, optimizing the backend for large-scale computer vision applications while ensuring high availability
- Engineered configurable logic to automate frame tagging, reducing manual annotation time and enabling faster model training iterations by removing bottlenecks in the pre-processing and data preparation stages
- Migrated local data infrastructure to Azure Blob Storage to improve reliability, enabling secure global access and supporting seamless management of high-volume video and image datasets for distributed teams
- Integrated Azure Cosmos DB to index metadata and status, utilizing composite indexes to enhance performance and ensuring structured data organization across the pipeline for rapid machine learning retrieval

Projects

PrizePicker | *Python, Selenium, Flask, HTML, CSS* January 2026

- Engineered an automated data extraction pipeline with Python/Selenium to scrape real-time player prop odds across sportsbooks, bypassing dynamic DOM loading and anti-bot detection to ingest thousands of data points
- Architected a fault-tolerant ingestion pipeline with automated session recovery, mitigating data loss from asynchronous DOM updates to ensure near 100% capture of player props across multiple markets
- Developed a statistical arbitrage algorithm that cross-references lines between sportsbooks (e.g., FanDuel vs. PrizePicks) to detect line discrepancies, calculating Expected Value (+EV) to identify profitable wagers
- Built a responsive full-stack web dashboard using Flask and HTML/CSS to visualize the data, implementing an intuitive UI with dynamic "slip" generation and directional indicators to streamline real-time decision making

Automated Sorting System | *Python, Robotics, Sensors* March 2023 – May 2023

- Engineered an end-to-end automated marble sorting system in Python, integrating sensors to classify and distribute marbles based on physical properties like color and opacity with consistent accuracy and high-speed throughput
- Optimized the hardware-software interface through rigorous iterative testing and system debugging, achieving a 99% sorting consistency by refining control logic to manage high-frequency sensor data and motor actuations

Activities

Skywalkers 8404 (FIRST Robotics Competition) Fremont, CA

Mechanical Captain *July 2023 – April 2025*

- Directed the comprehensive end-to-end lifecycle of the intake subsystem, utilizing Onshape for complex parametric modeling to optimize mechanical performance and seamless integration within the main robot frame
- Led a cross-functional team through manufacturing and assembly workflows, strategically assigning technical tasks and conducting rigorous design reviews to ensure manufacturability and strict adherence to competition deadlines

School House World Remote

STEM Tutor *May 2023 – Nov. 2024*

- Facilitated interactive remote learning sessions for 63 students, breaking down advanced STEM concepts into digestible, step-by-step modules to ensure comprehensive subject mastery and exam readiness