

# Stanley Hoo

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## EDUCATION

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### University College London (UCL)

Expected 2029

MEng Robotics and AI | Predicted First Class Honours

### Stuyvesant High School, NYC

2021 - 2025

GPA (UW): 95.31/100 | SAT: 1540 | National Merit Finalist | AP Scholar with Distinction

## RELEVANT EXPERIENCE

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### UCL Data Science Society | Science First Year Representative

Nov 2025 - Present

- Lead hands-on workshops for 60+ students on core Python data-science modules, including NumPy, Pandas, and Matplotlib.

### Youth4AM & Wyzant | Tutor

Jun 2025 - Present

- Tutor 20+ middle and high school students 1:1 in SHSAT, SAT, APs, and USACO, tailoring lessons to individual needs.
- Guide students through test strategies and practice problems, with some gaining admission to top NYC specialized high schools.

### New York Junior Tennis Learning (NYJTL) | Assistant Tennis Coach

Jun 2023 - Aug 2024

- Coached groups of 4–6 children (ages 5–11), mentored 30+ students across the summer in fundamentals and teamwork.
- Planned drill sequences and progress check-ins to reinforce communication and sportsmanship.

## TECHNICAL PROJECTS

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### Great Agent Hack 2025 | 3rd Place (50+ teams) & Most VALYU Award

Nov 2025

*Illusion – AI agentic system built on AWS Strands Agents for corporate privacy transparency*

- Developed a multi-agent system with AWS Strands Agents that autonomously retrieves, parses, and evaluates corporate privacy and data-usage policies, producing structured transparency reports with risk scores and citation-linked evidence.
- Built custom Search, Extraction, and Summary Agents that scan distributed sources to retrieve official privacy documentation and extract sections on data collection, retention, tracking, and user rights.
- Implemented caching to reduce API usage and latency, enabling fast repeat analyses without recomputation.

### AgentVerse Hackathon | 1st Place Technical Track, 2nd Place Creative Track (350 competitors)

Nov 2025

*Afterversed - AI agentic system built on AWS Strands Agents to automate post-death administrative processes*

- Led development of the project's Search Agents, which autonomously identify location-specific legal requirements, generate step-by-step action plans, and locate relevant forms, venues, and organizations.
- Engineered a Forms Agent that extracts user data and autonomously completes legal documentation and appointment scheduling.
- Designed modular subagents for specialized tasks (e.g., venue selection, notification management) coordinated by a master orchestration agent for dynamic task delegation.

### Tennis AI Swing Analyzer | Independent Project

Dec 2023 - Nov 2024

*Computer vision and ML pipeline for real-time tennis swing analysis and optimization*

- Achieved real-time inference (30 FPS) with skeletal overlay visualization, enabling players to benchmark their form against professional-level swing patterns.
- Constructed a Python ML pipeline trained on 300+ annotated swing videos to classify swing quality (“good”/“bad”).
- Implemented YOLOv7 keypoint detection to extract 17 joint coordinates per frame, normalizing features for temporal analysis.
- Trained an LSTM model on professional swings to model joint trajectories, generating predicted “optimal” swings for comparison.

### Smart Wordle | Google Mentorship Program

Jan 2024 - May 2024

*Mentee*

- Collaborated with a Google mentor and two peers to design a Wordle-inspired app with AI-driven adaptive difficulty.
- Engineered a RandomForestRegressor (scikit-learn) trained on user-specific features such as letter frequency in guesses and historical guess counts to assign difficulty scores to candidate words.
- Optimized gameplay by integrating adaptive word selection with custom guessing logic and SQLite3-backed user progress tracking.
- Presented the project to 10+ Google engineers, earning commendation from a panel engineer for technical innovation, creativity, and the quality of the implementation.

### Pseudo | Cybersecurity Project

May 2025 - Jun 2025

*Educational penetration-testing project on privilege escalation and remote shell access*

- Sudo credential capture and reverse shell initiation in a controlled environment.
- Engineered a Flask-based platform that deployed a simulated penetration virus onto target machines in a controlled environment, demonstrating core attack vectors.

## AWARDS & LEADERSHIP

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- USACO (USA Computing Olympiad) Gold Division
- Top 100 U.S. Tennis Junior Ranking (TennisRecruiting & USTA)
- 2023 USTA (United States Tennis Association) Eastern Section Sportsmanship Award
- Varsity Tennis – 1st Singles, Co-Captain, 4× MVP, Stuyvesant High School

## SKILLS

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**Languages & Frameworks:** Python, C, JavaScript, Java, Flask, scikit-learn, TensorFlow, NumPy, Pandas, AI Agents, React, FastAPI

**Databases & Tools:** PostgreSQL, SQL, MongoDB, Git, RESTful APIs, DigitalOcean, Linux