Jaynik Sheth

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Education

University of Toronto Sep. 2024 – Apr. 2029
Honours Bachelor of Computer Science (A&S Internship Program) *Toronto, ON*
- Program of Study: Computer Science Specialist & Statistics Minor
- Courses: Software Design, Intro to the Theory of Computation & Probability, Statistics and Data Analysis I

Work Experience

Software Engineer Oct. 2025 – Present
UofT Trustworthy Machine Intelligence Team (TMI) *Toronto, ON*
- Designing and implementing **multi-agent social simulations** in Python to model cooperation and fairness in small-world networks, analyzing emergent behaviors such as norm diffusion, polarization, and trust dynamics.
- Architecting a **scalable backend infrastructure** for LLM-driven simulations using FastAPI, asynchronous event loops, enabling efficient API communication, real-time analytics, and high-throughput data processing.

Founder & Lead Developer Jun. 2025 – Present
Playgenix *Toronto, ON*
- Building an AI-driven web platform that provides automated video analysis for gamers through real-time, frame-by-frame gameplay evaluation using **OpenCV and Bayesian ML models** to provide real-time feedback.
- Implementing user auth & session management with **FastAPI & Supabase** to secure user data & uploads.

Web Developer May 2024 – Present
Dynamic Physiotherapy *Maple, ON*
- Developing and maintaining a fully responsive healthcare clinic website using HTML, CSS, & JavaScript, improving **customer engagement and accessibility by 45**% through regular content updates and UI/UX optimizations.
- Ensured 99.9% uptime and fast load speeds by managing hosting, SSL, and DNS configurations via cPanel.
- Collaborating with staff to develop client-focused web solutions, enhancing the website for **2,000+ patients**.

Program Developer Jun. 2023 – Aug. 2023
InspireTech *Parry Sound, ON*
- Developed and deployed cloud-based programming and cybersecurity education software using Python, JavaScript, & Cisco Packet Tracer, expanding access to **1,000+ students & increasing platform engagement by 25%**.
- Collaborated with a team to design **20+ technical challenges** in coding, robotics, & cybersecurity for innovation competitions, enhancing participants' problem-solving accuracy and **competition participation by 40%.**
- Supported efforts to promote the business to investors, contributing to successful outreach and business growth.

Projects

NBA Insights | *Python, Flask, NumPy, scikit-learn, Matplotlib, HTML/CSS/JS, RESTful APIs* Apr. 2025
- Designed and deployed an end-to-end **ML pipeline using scikit-learn** to cluster 450+ NBA players into statistical archetypes, optimizing Gaussian Mixture Models to achieve a 0.62 silhouette score after PCA.
- Automated data ingestion by integrating the nba_api with **in-memory caching, enabling 10K+ data calls** per session while eliminating 80% of redundant API requests and maintaining sub-200 ms query latency.
- Created a **modular, OOP Flask backend** and responsive frontend using HTML/CSS/JS and Bootstrap, integrating Chart.js and Matplotlib for interactive comparisons of up to five players across multiple stats.

UofT Adventure Game | *Python, OOP, JSON, Flask* Feb. 2025
- Built an interactive adventure game set in the UofT campus using **object-oriented programming principles**.
- Designed a modular architecture using object composition to structure game elements, implementing a dynamic event logging, inventory, item, and undo systems to enhance gameplay flexibility and player experience.
- Developed a **modular JSON parser** that enables dynamic content loading for the seamless addition of content.

Technical Skills

Languages: Python, Java, JavaScript/Typescript, Node.js, React.js, C/C#, HTML/CSS, R
Libraries/Databases: FastAPI, Flask, NumPy, PyTorch, scikit-learn, Jupyter, OpenCV, Supabase, SQL
Developer Tools: Git/GitHub, Linux/WSL, Docker, Vercel, Railway, VS Code, JetBrains IDEs, Arduino IDE
Certificates: Quantium SWE Job Simulation, CodeSignal Git Version Control & Data Analysis w/ Python