John J. Kim

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Education

University of Virginia — Charlottesville, VA
B.S. in Computer Science, School of Engineering and Applied Sciences — *Aug. 2025 – Present*
- GPA: 4.0/4.0

Thomas Jefferson High School for Science and Technology — Alexandria, VA
Advanced Studies Diploma — *Aug. 2021 – Jun. 2025*
- GPA: 4.463/4.0; Relevant APs: CS A (5), Calculus BC (5), Physics (5 Mechanics, 5 E&M), Chemistry (5)
- Other Courses: AI 1 & 2, ML 1 & 2, Web & Mobile App Development, Multivariable Calculus, Linear Algebra

Experience

Researcher — ML@UVA × Johns Hopkins APL — Sep. 2025 – Present
University of Virginia — *Charlottesville, VA*
- Explored the strategy game *Diplomacy* to study human-aligned decision-making in LLM agents
- Investigated methods for aligning AI decisions with human behavior distributions using fine-tuning
- Experimented with steering vectors and prompting techniques to mimic distinct human playstyles

Full Stack Developer Intern — Jun. 2025 – Aug. 2025
MySmaX Lab (AIoT Startup), Seoul National University — *Seoul, South Korea*
- Built and deployed an AI agent to automate IoT workflows with Model Context Protocol (MCP)
- Applied machine learning–based anomaly detection to analyze IoT device data
- Served as a primary contributor to MySmaX's user-facing production website using Next.js

Competitive Programming & Mathematics — 2021 – Present
Clubs & Competitions — *Charlottesville, VA*
- USACO Gold Division
- American Invitational Mathematics Examination Qualifier (4x)
- Active member of the Putnam Club and ICPC Club at UVA; former TJ Varsity Math Team member
- Jane Street Estimathon Winner in 2024, 2025

Projects

Alpine Ski Racing AI Analysis Model (GitHub) | *Python, YOLO, PyTorch, CNNs* — Aug. 2024 – May 2025
- Built a deep neural network using CNNs to give ski racers quantitative feedback from a video
- Used computer vision models to analyze videos and extract skiers' pose data
- Achieved results that consistently aligned with real race performances

Offline AI Model for North Korea (Website) | *Python, LangChain, HuggingFace, Unsloth* Jun. 2024 – May 2025
- Researched secure ways for distributing reliable information in North Korea
- Developed an offline generative AI solution by fine-tuning existing LLMs
- Received a $7,500 grant from the Human Rights Foundation recognizing innovation and potential social impact

Technical Skills

Languages: Python, Java, C++, JavaScript, TypeScript, HTML, CSS
Frameworks: React, Next.js, Django, Tailwind CSS, MCP, FastAPI
Developer Tools: Git, Docker, Linux Shell, Jira, AWS
Libraries: PyTorch, TensorFlow, pandas, LangChain, HuggingFace, Agno, Unsloth

Languages & Other

Languages: English (Native), Korean (Native), Latin (Advanced Prose & Poetry)
Other: Alpine ski racer; certified junior ski coach