Joshua E. Yu

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EDUCATION

Georgia Institute of Technology   **Aug 2023 – Present**
M.S. Computer Science (expected May 2026)   Current GPA: 4.00

University of California, Los Angeles   **Sep 2015 – Jun 2019**
B.S. Chemical Engineering   GPA: 3.90
- Honors: *Summa cum laude*; Dean's Honors List for 7 quarters

SKILLS

- **Programming Languages:** C, C++, Java, Python, GLSL, PowerShell, VBA
- **Technologies:** OpenGL, Linux, Hyper-V
- **Tools:** Git, GitHub, Docker, Bash, Make, Jupyter Notebook, PyTorch, scikit-learn

PROJECTS

"Plum" 3D Graphics Engine – C++, OpenGL, GLSL
- Built an interactive 3D graphics engine utilizing deferred rendering and the PBR metallic-roughness workflow
- Implemented a GUI for placing light sources, 3D models, colored/textured shapes, and a skybox in the scene
- Incorporated shadow mapping, ambient occlusion, HDR tone mapping, bloom, and fast-approximate antialiasing

Supervised Learning Models for Data Classification – Python, PyTorch, scikit-learn
- Trained and tuned neural networks, support vector machines, and k-nearest neighbors classification models on two real world datasets, resulting in overall accuracy of >90% for each algorithm on each test set
- Argued that validation curves and optimal hyperparameters reveal if input features can be interpolated validly

Multithreaded File Transfer Protocol – C, Linux, Docker
- Implemented a multithreaded getfile protocol between client, proxy, and cache programs, enabling fulfillment of file requests from local cache or the Internet

"Spider-Man" Minigame – JavaScript, WebGL, GLSL
- Collaborated with a team to create a game where the player jumps, swings, and climbs obstacles to collect coins
- Developed third-person camera controls, player movement, and wall-climbing mechanics by manipulating model and view matrices, leveraging teammates' physics and collision detection systems

WORK EXPERIENCE

Takeda Pharmaceutical Company

Automation Engineer II – Los Angeles, CA   Aug 2021 – Jun 2024
- Served as manufacturing engineer & system administrator of DeltaV control system for plasma purification site
- Segmented and upgraded network infrastructure to improve reliability and uptime of 100+ operator terminals
- Implemented and tested a DeltaV code change to reduce vessel cleaning cycle time by up to several hours
- Wrote and tested a PowerShell script to automatically disable inactive users, reducing administrative workload
- Analyzed and merged Hyper-V virtual hard disks using PowerShell to free up space in a Cluster Shared Volume

Operations Development Program Associate – Los Angeles, CA and Lexington, MA   Jul 2019 – Aug 2021
- Supervised and trained 8 manufacturing operators, collaborating with engineering and science teams to ensure successful production of a critical orphan drug for infant botulism, a specialized process occurring every 5 years
- Created an Excel VBA application to streamline planning and data collection workflows for lab experiments
- Supported tech transfers, optimization projects, and validation protocols for downstream biologics equipment