Daeyoung Kim

Berkeley, CA daeyoungkim@berkeley.edu dubu911.github.io Dubu911

Education

B.S. Electrical Engineering & Computer Sciences (EECS) — University of California, Berkeley — Expected May 2026

- GPA: 3.72 / 4.00; focus on computer graphics, HCI, and visual computing
- Selected coursework: Data Structures & Algorithms, Discrete Mathematics, Probability, Computer Architecture, Computer Security, Computer Networks, Artificial Intelligence

Projects

Digital Watercolor Painting Simulator — Godot, GLSL, GPU Physics — 2024 – Present

- Built a real time watercolor painting system that simulates water flow, pigment diffusion, evaporation, and deposition entirely on the GPU using GLSL compute shaders
- Implemented a pressure sensitive brush system for tablet input and Beer–Lambert based optical mixing for realistic glazing and wet in wet effects
- *Links:* GitHub | project page | paper (PDF) | demo video

Stock Market Prediction Prototype — Python, PyTorch — 2024 – Present

- Analyze short and long term stock price behavior using LSTM and feedforward neural networks
- Built data pipelines with pandas/NumPy and SQL; applied ideas from PCA/SVD to time series representation

Experience

Computer Science Tutor — Berkeley City College, Berkeley, CA — Sep 2022 – May 2023, Sep 2025 – Present

- Tutor students across all computer science courses through the Learning Resources Center, building on prior math & CS tutoring experience at Laney College and BCC
- Give short mini-lectures on core CS concepts (data structures & algorithms, x86 assembly, computer organization)

Sub-Engineer, Semiconductor Equipment — Samsung Plant, Xi'an, China — Feb 2017 – Feb 2019

- Installed and removed semiconductor manufacturing equipment in a clean room environment as part of a multi disciplinary engineering team
- Collaborated with ∼10 engineers and 30 local staff on large scale equipment projects and line configurations

Main Art Instructor — Mokwoo Art Institution, Korea — Mar 2009 – Dec 2010

- Led a class of ∼50 high school students preparing for competitive entrance exams to art universities
- Balanced technical instruction with emotional support, building student confidence and improving outcomes

Skills

Programming: Python, Java, C/C++, GDScript, GLSL (compute shaders)

Tools & Libraries: Godot Engine 4, PyTorch, pandas, NumPy, SQL, Pygame, Git, Linux

Domains: Real-time graphics, GPU programming, physics-based simulation, time-series ML, teaching/tutoring