Dongkon(DK) Lee

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Education

Princeton University, Princeton, NJ — Sep 2023 – Jun 2027

- **B.S.E** in Electrical and Computer Engineering | **Minors**: Computer Science and Neuroscience
- **Organizations**: Princeton University Orchestra(Principal Clarinetist), Society of Asian Scientist and Engineers(Vice-President), Princeton Racing Electric(Embedded systems engineer), AGI and NLP Reading group(member)

Primoris Academy, Westwood, NJ — Sep 2019 – Jun 2023

- **Valedictorian** | **GPA:** 3.97/4.0 (Unweighted) | **SAT:** 800 Math (99th percentile), 740 Reading and Writing (99th percentile)

Professional Experience

Perimind AI – New York City, New York
Co-founder & CTO — Jul 2025 – present

- Built multi-agent RAG system for anesthesiology AI agent with vector search, custom LLM semantic reranking, and iterative retrieval loops with adaptive query reformulation, working alongside board-certified doctors
- Engineered custom data preprocessing pipeline with advanced chunking, indexing, and embedding using SOTA models for knowledge-grounded responses with citations

Kulite Semiconductors – Leonia, NJ
Machine Learning Engineer Intern — Jan 2025 - May 2025

- Fine-tuned Large Language Models and vision transformers for industrial automation, achieving 94% accuracy on custom datasets, integrating into the automation pipeline.
- Built end-to-end ML pipelines with automated data validation and testing frameworks, directly supporting software development lifecycle practices including unit testing and integration testing methodologies

Princeton Neuroscience Institute – Princeton, NJ
Machine Learning Research Intern — Nov 2024 – present

- Developing AI-driven solution for neuron segmentation validation under guidance of Dr. Sebastian Seung, world-renowned computational neuroscientist, targeting 90% reduction in manual review time
- Engineered pipeline to generate 40,000+ synthetic neuron states for reinforcement learning training, presenting progress updates to research team of 15+ PhD students and postdocs

AI/ML Projects

BedQ | Python, Pytorch, React, TailwindCSS | github.com/decaylee13/bed_q.git — Jan 2025 - March 2025

- Developed BedQ, an AI-powered hospital resource optimization system using deep-Q networks trained on Monte Carlo-generated synthetic data, achieving 87% improvement in patient-to-bed allocation over FIFO baseline.

Custom 16-bit Computer Processor | github.com/decaylee13/verilog-punc-processor.git — Nov 2024 – Dec 2024

- Designed and implemented complete 16-bit LC3 processor in Verilog including synthesizable datapath, control unit, ALU, register file, memory interface, and program counter with full instruction set architecture support

Selected Achivements and Skills

- **Awards**: Fischoff International Music Competition Silver Medal | NPR "From the Top" National Finalist | Amazon Future Engineer YVIP Top 10 National Finalist | National Cyberstart America Scholar
- **Technical Languages:** Python, Java, C, HTML/CSS
- **Frameworks/Libraries:** Hugging Face, Pytorch, Azure AI Foundry, Ultralytics, React, NextJS, Express, Node, TailwindCSS
- **Languages**: English (Native), Korean (Fluent), Mandarin Chinese (Basic), German (Basic)