Songgun Lee

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EDUCATION

University of California, Santa Barbara — Santa Barbara, CA
Bachelor of Science in Physics — Expected June 2027

- **GPA:** 3.5/4.0 | **SAT:** 1530
- **Relevant Coursework:** Computational Physics (Python), Linear Algebra, Differential Equations, Quantum Mechanics, Physics Laboratory (Data Analysis & Instrumentation)
- **Awards:** 3rd Place, UCSB New Venture Competition (2025); 1st Place, Technology Management Program Market Validation Award (2025)

TECHNICAL SKILLS

- **Programming:** Python, JavaScript, MATLAB, LaTeX, Bash/Shell Scripting
- **Scientific Computing:** FFT/Signal Processing, Power Spectral Density Analysis, Numerical Methods
- **Software Engineering:** Git, Linux CLI, TCP/IP Socket Programming, Multithreading, Unit Testing
- **Core Competencies:** Signal Processing & Spectral Analysis, Object-Oriented Design, Software Testing & QA, Test & Measurement Systems, Hardware-Software Integration

PROFESSIONAL EXPERIENCE

Masterminding (AI EdTech Startup) — Santa Barbara, CA
Co-Founder & Lead Data Strategist — Oct 2024 – Jul 2025

- Conducted 40+ structured statistical validation interviews to isolate high-friction pain points, utilizing quantitative sentiment analysis to verify the Ideal Customer Profile and pivot the core product features.
- Architected Business Model Canvas and GTM strategy, translating unstructured market signals into a concrete operational framework bridging engineering capabilities and user needs.
- Developed dynamic financial models for unit economics and revenue using sensitivity analysis, securing 3rd place in a university-wide venture competition judged by industry VCs.
- Validated AI curriculum efficacy via A/B testing on learning modalities (video vs. text), leveraging the resulting quantitative evidence of improved student engagement to successfully secure 10 pilot school contracts nationwide.

Republic of Korea Army (4.2" Mortar Squad) — Paju, South Korea
Fire Direction Center (FDC) Squad Leader — Aug 2022 – Feb 2024

- Commanded the Fire Direction Center in a Forward Edge of Battle Area (FEBA), calculating ballistic trajectories with zero-error precision while maintaining a 100% safety record over 18 months of high-stakes live-fire operations.
- Developed streamlined calculation procedure for high-explosive rounds reducing data generation time by 60%, increasing operational speed and squad survivability against counter-battery fire.
- Authored the now-standardized "4.2-inch Mortar FDC Field Manual," institutionalizing a faster, error-resistant protocol that has since been adopted across the battalion to enhance training efficiency for new recruits.
- Maintained real-time data links during 20-mile tactical marches with 100lb gear under simulated combat stress.

Maison de Celine — Busan, South Korea
Operations and Quality Control Assistant — May 2024 – Sep 2024

- Deployed a custom Python/Raspberry Pi inventory system utilizing an event-driven architecture, completely eliminating manual tracking errors.
- Conducted deep-dive data auditing on shipping workflows to diagnose revenue leakage, reducing mis-delivery rates by 80% through targeted protocol adjustments that isolated and fixed specific high-frequency error zones.
- Restructured fulfillment teams to address critical efficiency bottlenecks, replacing low-agility seniority workflows with high-velocity junior teams, increasing overall order processing speed by 15% while reducing labor costs.

PROJECTS, ACTIVITIES & INTERESTS

- **Automated Warehouse Inventory System:** Built full-stack inventory system with Python/Tkinter GUI, USB barcode scanner integration (HID parsing), and JSON database with atomic write operations for data integrity.
- **Signal Analysis & FFT:** Applied Fast Fourier Transform to extract frequency components from noisy time-series data; analyzed power spectral density for signal characterization in experimental physics datasets.
- **Numerical PDE Solver:** Developed solver for Partial Differential Equations using Relaxation Method on 2D grids for heat diffusion modeling.
- **Activities:** Society of Physics Students, Physics Circus (STEM Outreach), Gaucho Catholic