Vinni Yu

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EDUCATION

Yale University, New Haven, CT — Class of 2026

BS in Computer Science and BS in Electrical Engineering

- GPA 3.91/4.0
- *Relevant Coursework in Machine Learning, Systems Programming, Computer Graphics, Physical Simulation for Rendering*
- C/C++, Golang, Python, PostgreSQL, Bash, Docker, Kubernetes, GLSL

EXPERIENCE

OpsNow — New York, NY

Security Developer Intern — *Jul 2025 – Present*

- Reduced **CIEM** log collection pipeline time from 12+ hours to under 3 hours by optimizing **Golang**-based ingestion
- Parallelized workloads and restructured **Kubernetes** job orchestration
- Researching applied **ML-based** filtering to prioritize high-value log events, experimenting with Scikit-learn models

SparkLabs Ventures — Seoul, South Korea

Software Engineering Intern — *Jul 2024 – Aug 2024*

- Built an internal fiscal report generator in **Python** that automated the creation of 100+ portfolio company reports
- Engineered a templating system with **Openpyxl** and **Pillow** to create customizable and visually polished results
- Optimized legacy report generation pipeline by restructuring data retrieval and merging logic, achieving 10x speedup
- Evaluated portfolio company software for technical viability & strategic alignment, closely collaborating with startups

Yale Internal Medicine — New Haven, CT

Full–Stack Developer — *Sep 2023 – Sep 2024*

- Co-authored a peer-reviewed publication: Slotkin R, Kyriakides TC, **Yu V**, et al. *CoVimmune COVID-19 Immunity Calculator: Web Application Development and Validation Study*, contributing to full-stack development
- Deployed containerized applications using **Docker** and **AWS** scaled to 1000 monthly users at launch
- Refactored backend architecture by decomposing a **Flask** monolith into **RESTful** APIs, improving maintainability
- Enhanced data security by ensuring HIPAA-compliant data processing and secure integration with Yale SpinUp

MUNE Co., Ltd. — Seoul, South Korea

Embedded Software Engineer — *Jun 2023 – Aug 2023*

- Deployed **Python**-based web scrapers to automate collection of market and clinical data across biotech domains
- Created a lightweight **NLP** pipeline to parse and structure biomedical text from Korean and English clinical sources
- Prototyped **embedded** hardware components with **SolidWorks** and **Arduino** for patient blood management systems
- Drafted FDA-compliant technical documentation and supported US certification workflows

Yale Math Department and Engineering Department — New Haven, CT

ULA – Software Engineer — *Sep 2023 – May 2025*

- Created Linux-based auto-grade and file organization system with **Bash** and **Python** for ENAS130 coding assignments
- Custom grading scripts parsed, classified, and validated student code and generated feedback reports
- Prepared lesson plans and coding exercises in C/C++ and MATLAB, supporting professors in large-format courses
- Provided 8 hours of weekly tutoring for multivariable calculus and programming courses for ~10 students a semester

PROJECTS

Real-Time Fluid Simulation with PCI-SPH

C++ · OpenGL · GLSL Compute Shaders · Numerical Methods

- Implementation of 2D and 3D fluid **simulation engine** using the Predictive-Corrective Incompressible SPH method
- Engineered a modular simulation framework in **C++**, handling **GPU** memory management via SSBOs and **GLSL**
- Designed physically plausible, stable, and incompressible renders in high (~100k) particle-count systems

Backtesting Framework for Trading Strategies

C++ · STL · Systems Design

- Designed a low-latency **in-memory order book engine** to support high-frequency simulation of trading activity
- Implemented support for limit/market orders**, FIFO queuing**, and order matching logic with optimized performance
- Building a modular backtesting framework that supports historical data replay, strategy hooks, and PnL tracking