Paul Yoon

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EDUCATION

STANFORD UNIVERSITY Palo Alto, CA
Bachelor of Science, Computer Science; Minor in Music | GPA: 3.8/4.0 *Expected June 2027*

PROFESSIONAL EXPERIENCE

STANFORD CENTER FOR ARTIFICIAL INTELLIGENCE IN MEDICINE & IMAGING Palo Alto, CA
Researcher – Principal Investigator: Bao Do, MD *Sept 2025 – Present*

- Built an automated retrieval pipeline linking radiology reports to case images by orchestrating 5+ external APIs (Gemini, Google Images, and internal libraries), removing ∼90 percent of manual lookup time for clinicians
- Implemented structured-text extraction logic to convert unformatted radiology prose into typed clinical features (location, borders, signal characteristics, enhancement), enabling consistent downstream reasoning and retrieval
- Developed fault-tolerant request sequencing, retries, and response validation to handle high-variance API formats and ensure consistent output quality

SUNDIAL Palo Alto, CA
Data Science Intern *Jul 2024 – Sep 2024*

- *Sundial is a Series A startup building an automated data science and product analytics tool founded by two early Meta executives, one of whom went to Sequoia Capital before founding Sundial*
- Implemented a modular Python forecasting component using Facebook Prophet, outperforming the existing production model by 120% (MAPE) and enabling drop-in replacement for the company's analytics pipeline
- Designed a lightweight anomaly detector that reduced false positives for power users, using Spark SQL on S3-backed event logs to compute behavior-based thresholds
- Delivered clean, well-documented model code adopted directly into Sundial's production analytics pipeline

PROJECTS

Hidden Studios AdTech Platform
Next.js, Supabase, TypeScript *May 2025 – Jul 2025*

- Built a backend data model for campaign scheduling, including tables for campaigns, ads, time slots, and linked media
- Implemented ad impression and forecast logic by scraping Fortnite.gg player-count data through custom API endpoints
- Decomposed a 1500+ line Next.js dashboard into modular components, fixing critical workflow bugs (incorrect game ID mapping, scheduler desync, forecast parameter issues) for reliable end-to-end campaign creation

Timestamping Video Game Eliminations with Computer Vision
Python, LaTeX *Apr 2025 – Jun 2025*

- Curated a custom detection dataset (165 events, ∼1,650 frames) with color-jitter augmentation strategies
- Fine-tuned YOLOv8-nano (2.5M params) on <200 images, achieving 0.61 F1 and 0.49s mean temporal error, doubling precision compared to a baseline template matcher
- Engineered a lightweight inference pipeline (OpenCV + ffmpeg) that processes a 14-minute VOD in 1.5 minutes on CPU, generating highlight clips with sub-frame accuracy

Explicit/Implicit Heap Allocator
Unix, C *May 2024 – Jun 2024*

- Implemented the "malloc", "realloc", and "free" functions optimizing for request throughput and memory utilization
- Incorporated an explicit list of nodes to assign optimal locations for new memory requests and lower memory fragmentation
- Achieved 91% memory utilization via testing on heap activity memory requests from Emacs, Cmake, and Firefox

TECHNICAL SKILLS

Languages: Python, TypeScript, C++, SQL, C, JavaScript, HTML/CSS
Frameworks/Libraries: React.js, Next.js, React Native, Supabase, Flask, Pandas, Scikit-learn, PyTorch, Matplotlib
Developer Tools: Git, Unix, Vim, VS Code, Apache Spark, Snowflake, Jupyter Notebook