Priscilla Chu Hui Ong

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Education

Dartmouth College, Hanover, NH — June 2027
Bachelor of Arts, Double Major in Computer Science and Economics — (SAT: 1560) GPA: 3.93 /4.00
Coursework: *Artificial Intelligence, Discrete Math, Machine Learning, Object-oriented Programming, Software Implementation*

Relevant Experience

WorldQuant — Kuala Lumpur, Malaysia
BRAIN Quantitative Research Consultant (Alpha Engineering) — Mar 2025 – Sep 2025

- Architected a vectorized backtest & diagnostics library (Python/Numba) adopted by 6+ researchers; decreased median runtime ~28 →13min, and memory usage by ~58% via dtype downcasting and chunked joins; reached ~85% test coverage with MLflow.
- Engineered a React/D3 alpha analytics dashboard; improved page load 8 → 2.3s via code-splitting and virtualization; deployed WebSocket streaming handling 5K+ messages/minute for real-time portfolio health monitoring.
- Eliminated ~20% data-ingestion failures by integrating Great Expectations schema checks to Airflow-S3/Parquet pipeline; enhanced research observability by implementing Datadog SLOs (p95 backtest ≤12min) with queue-latency alerts.

***Natural Language Processing & Machine Learning Lab*, Dartmouth College** — Hanover, NH
Presidential Scholar Research Assistant — May 2024 – Present

- Increased GPU efficiency by ~28% and reduced ~80% out-of-memory errors by optimizing 8-node distributed training cluster with gradient checkpointing and dataloader fixes; contributed a PyTorch Lightning memory enabling longer sequences.
- Accelerated reproducibility across 5 repos by Dockerizing with CI caching, expanding pytest coverage ~38% → 86%, standardizing Hydra configurations, and enforcing hermetic builds with fixed seeds/cuDNN flags.
- Instrumented fail-fast schema/drift checks and Hugging Face evaluation harness to block corrupt shards pre-train; designed an inference path (FastAPI, TorchScript) for slice-based error analysis with a p95 latency SLO, canary routing, and A/B hooks.

Leadership

Aegis Health: Wearable-ML Early-Warning & Personalized Nudging for Chronic Care — GitHub | Demo | Architecture
Co-Founder & Technical Lead — Aug 2024 – Present

- Conducted 40+ user to ensure product market fit; led 5 engineers to drive concept to MVP in 6 sprints; secured $10k funding and hospital collaboration to recruit 115 patients for a clinician-guided 8-week non-diagnostic beta.
- Achieved 58% weekly active users with D7/D30 retention ≈72%/51%; boosted on-time confirmations by 7pp via generating 9.3k behavior-timed nudges with ~41% tap-through; logged ~380 risk alerts with 63% clinician acknowledgment <24h. (observational)
- Designed and operated a calibrated 48-hour flare-up risk prediction model with Temporal Fusion Transformer (AUROC ≈0.8, ECE ≈2.9%); maintained p95 latency ≤180ms at ~25rps on GCP (HealthKit/Google Fit → Pub/Sub → Dataflow → BigQuery).

The Dartmouth Newspaper — Hanover, NH
Digital Media & Analytics Lead — Sep 2023 – Present

- Directed 8-person Agile squad to ship mobile-first PWA redesign to 120K+ monthly readers; grew sign-ups by ~14% MoM; extended session duration by ~33%; improved Core Web Vitals (LCP <2.5s, CLS <0.1); cut bounce rate by ~18%.
- Minimized homepage curation time ~60 → 20min for 40+ editors by building a near-real-time analytics stack (GA4 export → BigQuery → dbt → Looker) with <60s freshness; amplified ad-CTR by ~15% through A/B testing placement variants.

Selected Projects (https://portfolio-u8 fz.vercel.app/)

AI Multi-Agent Pull Requests Auto Reviewer (FastAPI, Celery, Redis, Postgres) — GitHub | Demo | Architecture

- Built webhook automated PR triage for 29 student devs; processed 620 PRs over 6 weeks; accelerated time-to-first review (~40 → 24min) and reduced manual comments by ~28% using diff-aware lint, test, security, and docs suggestions.
- Achieved reliability targets (SLO 99% <500ms, ~99.5% uptime, zero Sev-1); validated 22ms p95 at ~20rps in Locust; reduced API calls by ~35% via GraphQL batching, ETag caching, and token-bucket backoff; added CI canary and auto-rollback runbooks.

Intelligent Real-time Data Quality Checking Engine (Python, dbt, Prometheus, Parquet) — GitHub | Demo | Architecture

- Shipped rules + Isolation Forest + Z-score checks that annotate Slack/PRs; saved 4–6 hrs/week of manual checks for 40 students.
- Established expectations/SLAs and exactly-once ingestion; attained p95 <250ms at 50rps and freshness ≥98%; enforced dbt/CI gates that blocked ~2–5% critical PRs while maintaining alert precision ≈85% and recall ≈70%.

Skills & Awards

Programming: Python (primary), Java, TypeScript, C, SQL | **ML/DS**: PyTorch, NumPy, pandas, TorchScript, Numba, MLflow
Data/Infra: Airflow, Parquet, DVC, GitHub Actions, Docker | **Backend**: FastAPI, Flask, Celery, Redis, PostgreSQL, GraphQL
Frontend: React, D3.js, WebSockets | **Observability**: Datadog (SLOs/alerts), Locust, Intel VTune, py-spy
Fellowships: WorldQuant Brain Gold(~10% worldwide), Bridgewater Immersion(~3%), Citadel FI&M(~2%), Jane Street Insight(~2%)
Interests: Personal investing, F1 enthusiast, hiked the Dolomites, 4x brain tumor advocacy speaker, professional dog treats baker