# Anselm Long

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## EDUCATION

**National University of Singapore**     Singapore
*Bachelor of Computing (Computer Science)*     *Aug 2023 – Apr 2027*
  - **GPA:** 4.69 / 5.00. **Specialized Track:** Artificial Intelligence
  - **Relevant Coursework:** Artificial Intelligence and Machine Learning, Software Engineering, Object Oriented Programming, Data Structures and Algorithms, Statistics and Probability

## SKILLS

**Languages:** Python, Java, JavaScript, C, C++, HTML/CSS, Go, LaTeX
**Frameworks:** React, Next.js, Node.js, tRPC, JavaFX, LangChain, GSAP
**Libraries:** scikit-learn, Pandas, Numpy, YOLOv8
**Developer Tools:** Git, PostgreSQL, Vercel, VS Code, Firebase

## PROJECTS

**Freak-Cha** | *Frontend & Computer Vision Developer, HackHarvard 2025*     Oct 2025
  - Developed *Freak-Cha* (freakcha.com), a CAPTCHA-inspired challenge to distinguish humans from AI using facial expression recognition; awarded Funniest Hack at HackHarvard 2025.
  - Built responsive frontend with Next.js, Tailwind CSS, and tRPC, integrating real-time facial recognition using MediaPipe FaceMesh and YOLOv8, to enhance authentication measures while allow users to login quickly.
  - Engineered data collection and labeling workflows to support training of the computer vision model on human facial patterns, improving accuracy of our facial expression model.
  - Collaborated with a team of four to pitch and present the project, earning recognition as the organisers' favourites.

**anselmlong.com** | *Developer*     Oct 2025
  - Built a full-stack AI-powered portfolio website featuring streaming RAG chat, responsive GSAP animations, and a polished UI using LangChain.js and the OpenAI API.
  - Optimized the RAG pipeline with singleton-pattern database pooling, conditional NLP-based question rewriting, and limited conversation history, achieving a 70% latency reduction and 40% higher answer relevancy.

**VBook** | *Team Lead, NUS*     Sep 2024 – Nov 2024
  - Led a 4-person team to design and develop a JavaFX-based CLI contact manager tailored for developers.
  - Engineered an intuitive frontend interface using JavaFX, delivering a smooth and efficient user experience.
  - Coordinated project milestones and delegated tasks to ensure timely completion of all deliverables.

## EXPERIENCE

**Machine Learning Intern, IMDA**     May 2025 – Aug 2025
  - Researched and evaluated eight anomaly detection models, narrowing to one optimal model through quantitative comparisons of F1-score, speed, and explainability.
  - Conducted extensive hyperparameter tuning and ablation studies across all shortlisted models to maximize performance and generalization on unseen datasets, achieving a best, near-perfect F1-score of 0.994.
  - Assessed the predictions of various models using Explainable AI (LIME) and feature importance analysis to surface key predictive features, improving transparency and stakeholder confidence in anomaly classification.

**Strategic Digital Projects Intern, IMDA**     May 2024 – Aug 2024
  - Facilitated industry and company engagements in collaboration with Microsoft and AWS to showcase emerging technology use cases in industry-facing workshops, resulting in over 30 companies initiating GenAI projects.
  - Led a data consolidation initiative leveraging Salesforce to streamline cluster management and cross-team decision-making, estimated to reduce time spent locating data by 50%.

**Freelance Photographer and Videographer, Self-Employed**     Oct 2019 – Aug 2025
  - Managed end-to-end client and vendor relationships, increasing monthly revenue by 300% over 6 years.
  - Delivered high-quality digital photography and videography services, resulting in high client satisfaction and referrals from over 150 clients.

## Co-Curricular Activities

**Ridge View Residential College Programme, NUS**                           Aug 2023 – Present
*Senior Student Leader (AY25/26)*                                                    *Singapore*

- Spearheaded multiple publicity initiatives in the RV Social Media Team, RV Peer Student Supporters (PSS), RV Coffee Club, and RV Open House 2025, driving engagement through creative campaigns and multimedia content.
- Founded RV Media, a student-run initiative dedicated to digital storytelling and archiving events at Ridge View Residential College.
- Represented Ridge View in the Inter-College Games 2023-2024 and captained the Ridge View Bouldering Team.