Diwen Huang

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Technical Skills

Languages: Python, Swift, Kotlin, TypeScript, JavaScript, Java, C++, SQL, HTML/CSS
Frameworks & Tools: SwiftUI, React, React Native, Next.js, Tailwind CSS, Firebase, Supabase, Gemini API, Git, GCP, Android Studio, Figma, Bash, Pygame
Machine Learning: TensorFlow, PyTorch, NumPy, SciPy, scikit-learn, CoreML, OpenCV, YOLOv5, ONNX, CUDA, Kalman Filtering
Design: UX/UI Design, Wireframing, Prototyping, User Research, Responsive Design

Experience

Solace
Founding Engineer — UC Berkeley Web3 Startup   Oct 2025 – Present

- Leading mobile development for Solace's AI wellness app using React Native and Supabase, focusing on authentication, data management, and analytics.

- Collaborating with the core engineering team to design scalable mobile architecture and deliver performant production builds.

Cluely
Machine Learning Engineer (Contract)   Oct 2025 – Oct 2025

- Developed a lightweight, local-only gaze tracking prototype using standard webcams to infer eye and head pose, classifying gaze direction (left/right/up/down/center) at **15–30 FPS**.

- Implemented swappable face/landmark detection modules, optional five-point calibration, temporal smoothing, and dual outputs (debug overlay + NDJSON/WebSocket stream) with <**100ms** latency.

- Designed a privacy-first architecture: no frame storage or network transmission; achieved CPU-only performance for real-time use cases.

Smashspeed AI
Founder & Lead Developer   May 2025 – Present

- Built real-time computer vision pipeline for iOS using YOLOv5, CoreML, and Kalman filtering to calculate badminton smash speeds with high precision on-device; achieved **93%** accuracy after hand-labeling and training on **15,000+** images using NVIDIA A100 GPUs on Google Cloud.

- Architected scalable Firebase backend supporting tens of thousands of registered accounts with authentication, cloud storage, and real-time data synchronization.

- Led a **6-person** engineering/design team, scaling to **35,000+** users and ranking **#1** in Taiwan (Sports), **#2** in Vietnam, and **#4** on Google Play (Sports) through viral campaigns reaching **5M+** views.

- Achieved **34%** average conversion rate, significantly exceeding the mobile app industry average of **2–5%**.

Projects & Research

Computer Vision Research (Independent)   May 2025 – Sep 2025

- Authored and published research paper on arXiv presenting novel algorithms for Smashspeed AI; mentored by **Stanford (PhD, CS)** and **UPenn (MEng, Data Science)** experts.

Steve the Freakysaur   Sep 2025

- Built Chrome Dino–style game controlled hands-free via real-time tongue detection using a segmentation model on webcam input; awarded **1st place** (**124** participants, **50+** projects) at Daydream Game Jam, BC's largest youth hackathon.

- Generated **200,000+** impressions on LinkedIn, amplifying project visibility and engagement.

diwen.dev (Freelance Web Design)   2024 – Present

- Designed and built client websites emphasizing clean UX, animation, and responsive design using React, Next.js, and Tailwind CSS.

Amazon Bestselling Books | *Technical Author*   Aug 2025

- Authored two programming guides, *Python FastStart* and *Swift FastStart*; latter reached **#1** in App Development and Top **50** in Artificial Intelligence on Amazon.

Education

Port Moody Secondary School – IB Diploma Candidate   Port Moody, BC
Expected Graduation: June 2027

- **Academics: 4.0 GPA (97.1% average)**, Rank: **2/300**. Pursuing IB Higher Levels in Math AA and Physics.

- **Standardized Tests:** SAT **1540** (**800** Math, **740** English).

- **Certifications & Coursework:** Deep Learning Specialization (Coursera), Google UX Design Specialization (Coursera), Linear Algebra & Multivariate Calculus (Imperial College London).