Brandon Pratama Kwee

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Portfolio: https://brandonpratama.com

Education

Ritsumeikan University | B.Eng. Information System Science and Engineering | **GPA: 4.83/5.0**   *Grad: Apr 2028*

Osaka Japanese Language Education Center | Intensive Japanese Program | **JLPT N1**   *Grad: Mar 2024*

Key Skills

Programming Languages: Python, Java, JavaScript/TypeScript, C++, GLSL, C
Frameworks/Tools: React (Native), Flask, TensorFlow, Scikit-learn, OpenCV, SQLAlchemy, AWS, Git
Specializations: System Architecture, NLP, Computer Vision, GIS, Performance Engineering

Experience

Ri-One@Home League Robotics Club   *Apr 2024 - Present*
Software Lead   *Sep 2025 - Present*

- **Engineering Leadership:** Directing the software department's **NLP and App teams (5 developers)** while ensuring operational continuity for the CV track. Standardized the tech stack to increase cross-team development velocity
- **System Architecture & Evaluation:** Oversaw the benchmarking of **6 SLMs** under a strict **<7GB VRAM constraint** and defined evaluation frameworks using **ROUGE, BLEU, and Perplexity** metrics
- **Technical Mentorship:** Mentored the **NLP team** on vector embeddings and pipeline logic and trained the **App team** on React Hooks and REST/Socket protocols to establish professional-grade development standards
- **Integration Design:** Authored technical activity diagrams mapping interactions between **CV and NLP modules** to define data flow requirements for future hardware integration

Projects

3D Portfolio Website | Frontend Performance Engineer   *Mar 2025 – Present*

- **Architected a 3D delivery pipeline on AWS (S3/CloudFront)**, achieving a global **sub-400ms p50 TTFB** and maintaining a strict **1.67MB payload** to minimize egress costs and user drop-off
- **Engineered procedural GLSL shaders** for volumetric fog and caustics to bypass baked animations, offloading logic to the GPU to ensure **60 FPS on desktop** and **stable 30 FPS under 4x CPU throttling**

Pollen Mapping System | Team Lead, Full Stack Developer   *Oct 2024 – Jan 2025*

- **Built REST APIs** in Flask and integrated a pre-trained ML model for real-time predictions and backend tested locally with **50 simulated requests**, achieving **~0.2s per request and 100% success rate**
- **Developed a GIS-integrated React frontend** to extract image geolocation metadata and visualize spatial data via a **SQLAlchemy** and Flask backend

Certificates & Awards

Certifications: AWS AI & Cloud Practitioner (Foundational), JLPT N1, IELTS (7.5)
Scholarships: Nikki Jitsukichi (2025)**, Saionji Memorial** (2025), **JASSO** (2024 – 2025)