

RISHABH RAY

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Melbourne, VIC | Temporary Graduate Visa (Subclass 485)

PROFESSIONAL SUMMARY

AI engineer who likes shipping things that hold up in production, not just in a notebook. I've built and integrated three Llama 3.3 features into a live platform, including a hybrid recommender that pairs deterministic scoring with model re-ranking, and kept the product working even when the model didn't by enforcing JSON schemas and building in graceful degradation throughout. Comfortable across the whole stack - Python, PyTorch, Vue 3, Flask, PostgreSQL, AWS. Currently mentor undergraduate software teams and set AI-usage standards for a unit at Monash University.

EXPERIENCE

Sessional Teaching Associate - Monash University, Faculty of Information Technology

Clayton, VIC | Feb 2026 – Present · Technical Mentor, FIT3047 Industry Experience (S2 2026)

- Mentor 13 undergraduate student teams (78 students) through a full-semester, industry-sponsored software project, running weekly studio sessions and supervising delivery against client milestones.
- Review student codebases in PHP / CakePHP 5 and MySQL, giving structured feedback on architecture, code quality and version control practice.
- Set and enforce the unit's standards for AI-assisted development: evaluated coding assistants for classroom use, defined where an assistant may operate in a codebase, and designed the logging and review process teams follow - noticeably speeding up review turnaround.
- Facilitate product-owner review sessions, translating technical progress for non-technical stakeholders.

Brand Operations Manager - Say It With A Pin (2626 Creative Studio)

Delhi, India | Oct 2023 – Jun 2024

- Architected and shipped internal automation pipelines (Zapier, n8n) integrating Shopify, Stripe, and Mailchimp, replacing manual order-and-production status checks with real-time cross-team notifications and saving a full day or more of manual coordination each week; owned the company website and internal reporting dashboard end-to-end.
- Implemented Notion as the studio's cross-functional project management system, bringing 10+ people across production, design and leadership onto one shared workflow in place of ad hoc coordination.
- Delivered a 7,500-unit hand-painted pin and magnet order for Mini Cooper end-to-end - production coordination, quality control, and logistics - within a one-month turnaround.
- Owned B2B brand-partnership accounts including BMW (ongoing, repeat engagements sourced directly through industry-event networking) and Third Wave Coffee (multi-city gift-hamper and merchandise rollout across Delhi, Mumbai, and Bangalore stores), alongside Diageo, Tata and Sons, ITC, India Art Fair, Kiran Nadar Museum of Art, Museum of Solutions, Form Labs, and White Studio.
- Worked directly with the founders on day-to-day strategy across both B2B and B2C sides of the business, with end-to-end ownership of production and client delivery.

Website Development Intern - Anev Media

Delhi, India | Jun 2022 – Oct 2022

- Rebuilt website infrastructure on WordPress, increasing average session duration by 30%.
- Built and deployed web features using Python, JavaScript and Firebase, increasing user submissions by 25%.
- Implemented analytics-driven SEO improvements, lifting organic traffic by 40%.

PROJECTS

NeighbourFit - Melbourne Suburb Recommendation Platform · Winner, Monash PG Industry Experience Expo (S1 2026)

Mar – Jun 2026 | Six-person team, FIT5120 Industry Experience Studio, under an APA Group industry mentor | Vue 3, Flask, AWS Lambda, API Gateway, PostgreSQL on RDS, Groq (Llama 3.3 70B), AWS Amplify

- The problem: choosing where to live in Melbourne meant manually cross-referencing transport, safety, amenities and demographics across separate sites, with no single tool weighing any of it against a person's own priorities.
- Designed and shipped a hybrid AI recommender on Llama 3.3 70B, combining three LLM features (natural-language preference extraction, persona-aware suburb summaries, and qualitative re-ranking of a deterministic top-15 shortlist to three) with enforced JSON schemas, graceful degradation, and visible model reasoning, so the product kept working, and stayed explainable, even when the model didn't.

- Built the weighted scoring engine and the REST API behind it, using UNION ALL queries across spatial point-of-interest and transport-stop tables, scaled to 290+ Melbourne suburbs - cutting a typical evening of manual research down to about 30 minutes.
- Ran fortnightly reviews and requirement-gathering sessions with the team's APA Group industry mentor, translating ambiguous, evolving asks into a scoped three-iteration delivery plan that shipped all three iterations on schedule.

Outfit Picker - solo, shipped side project

React, Vite, IndexedDB, PWA · github.com/rishabhrray/outfit-picker

- Designed and shipped a solo local-first PWA where AI providers (OpenAI, Anthropic, Gemini, Groq) are swapped at runtime behind one interface, each backed by a four-tier fallback ladder for structured output so a provider's quirks degrade gracefully instead of breaking the app.
- Handled the integration details that make a bring-your-own-key app actually reliable: detecting a key pasted for the wrong provider, working around a provider's reasoning-token budget, and adding a required browser-access header automatically.
- Kept everything client-side by design: photos, wardrobe records and provider keys live in IndexedDB and localStorage, with no backend or account ever seeing them.

AI Systems Portfolio - from first principles

Python, NumPy, PyTorch · github.com/rishabhrray/monash-projects

- Trained four independent DQN agents from scratch (experience replay, Polyak-averaged target networks, a difficulty-graded curriculum), and built feedforward networks directly on PyTorch tensors, implementing SGD, momentum and AdaGrad by hand with exact ELU/GELU derivatives for backpropagation.
- Built a hybrid agent combining PDDL-inspired symbolic reasoning, a particle filter with Bayesian resampling for hidden-opponent tracking, and risk-sensitive A* navigation.
- Implemented KNN regression from scratch with a KDTree, plus L-fold cross-validation, bias-variance analysis and one-standard-error model selection.

KEY SKILLS

Languages: Python, SQL, JavaScript, PHP, C++

AI & ML / LLM engineering: PyTorch, scikit-learn, NumPy, Pandas; Groq (Llama 3.3 70B), OpenAI and Claude (Anthropic) APIs; prompt engineering, structured JSON output enforcement, RAG, agentic workflows and multi-step LLM orchestration, graceful degradation and fallback design; DQN and multi-agent RL, KNN, Bayesian networks, particle filters, A* search, constraint programming (MiniZinc)

Backend & cloud: Flask, REST API design, AWS (Lambda, API Gateway, RDS, S3, EC2, Amplify), PostgreSQL, MongoDB, Docker, Git, JWT and bcrypt auth

Frontend: Vue 3 (Composition API), Vite, Axios, Leaflet.js

Communication & stakeholder engagement: Requirement-gathering and stakeholder translation, code review and mentoring, Agile/Scrum, cross-validation and reproducible experiment design

EDUCATION

Master of Artificial Intelligence - Monash University

Melbourne, VIC | Jul 2024 – Jun 2026

- Coursework: Deep Learning, Machine Learning, Multi-Agent Systems, Planning & Automated Reasoning, Discrete Optimisation, Mathematical Foundations for Data Science & AI, Databases, User Interface Design.