

Sumit Pokharel

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This CV is still in progress and will be updated.

SUMMARY

Software Engineer at Rakuten, leading frontend development for the Checkout system serving 50M+ users. Research-engineer focused profile with hands-on ML implementations (transformers, autograd) and practical AI tooling using LLM APIs; targeting roles in research engineering across efficient ML, LLM training, and multimodal learning.

EXPERIENCE

Rakuten Group, Inc. Tokyo
Software Engineer (Frontend Lead) Apr 2024 – Present

- Lead frontend for Ichiba Checkout (cart) serving 50M+ users across 200+ components.
- Owned three major initiatives end-to-end: Okihai contactless delivery (production), credit card installment (production), and credit card scan (in development).
- Built internal AI tooling using the Claude API: a CLI to auto-generate component boilerplate and a component dependency graph indexing 200+ components.

Best Path Research Jul 2023 – Aug 2023
Machine Learning Intern

- Built a Python pipeline for digital text to handwritten image conversion.
- Developed receipt distortion correction using SAM for segmentation and DocTr-style control point regression for dewarping.
- Trained an encoder-decoder model on 10K+ synthetically warped images.

EDUCATION

Ritsumeikan Asia Pacific University Sep 2019 – Sep 2023
Bachelor of Business Administration, CGPA 3.65

- Non-CS background; transitioned to engineering through self-study.

RESEARCH AND ML PROJECTS

transformers — *Transformer architectures from scratch*

- Implemented core transformer building blocks to deepen theoretical and practical understanding of attention and sequence modeling.

chibigrad — *Miniature autograd engine (NumPy)*

- Built an educational automatic differentiation engine to understand backpropagation and computational graph mechanics.

Transformer gists — *multiheadattention.py, selfattention.py*

- Authored concise reference implementations with detailed explanations.

TECHNICAL PROJECTS

sumit.ml — *Personal site with ML worklogs (Astro)*

- Maintains research notes and engineering write-ups to document learning progress.

dotfiles — *Neovim, tmux, Ghostty configs (95 stars)*

- Curated productivity tooling and shared configuration templates.

SKILLS

Programming: Python, TypeScript, JavaScript

ML / Data: PyTorch, NumPy

Frontend: React

AI Tools: Claude API integrations

RESEARCH INTERESTS

- Efficient ML: pruning, quantization, low-rank adaptation, distillation.
- LLM training and alignment: pre-training, fine-tuning, safety.
- Multimodal learning and NLP fundamentals.

LANGUAGES

Japanese (JLPT N2)