

Atharva Timsina

Tsukuba, Ibaraki, Japan

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SUMMARY

Software engineer focused on compilers, functional programming, and systems design. Built a statically-typed functional language from first principles in Haskell, contributed to widely-used open-source UI tooling, and developed production backend systems. Strong emphasis on understanding system internals and correctness.

EDUCATION

University of Tsukuba

B.Sc. in Media Sciences and Engineering, School of Informatics

Tsukuba, Japan

Apr 2025 – Expected Mar 2029

- MEXT (Monbukagakusho) Scholar (Full Government Sponsorship).

Osaka University

Center for Japanese Language and Culture (Intensive Program)

Osaka, Japan

Apr 2024 – Mar 2025

- Coursework: Japanese, foundational STEM subjects in Japanese, Japanese Culture.

TECHNICAL PROJECTS

Pura Compiler | Haskell, Megaparsec, Type Theory

Jan 2026

- Designed and implemented a statically-typed functional programming language compiled to JavaScript.
- Engineered a **Hindley-Milner Type Inference** system to ensure mathematical type safety.
- Implemented a recursive descent parser using Megaparsec, with operator precedence handling and error reporting.
- Implemented an effect-tracking system to enforce explicit I/O permissions at compile time.
- Source code: github.com/Axarva/pura-compiler

XMonad Configuration (Open Source) | Haskell, Linux/X11

- Core contributor to a highly customized tiling window manager configuration with **1,900+ GitHub stars**.
- Wrote configurations for multiple open-source projects to create a user interface loved by the Linux community.
- Source code: github.com/Axarva/dotfiles-2.0

PROFESSIONAL EXPERIENCE

E. Ruchi Pvt. Ltd.

Remote / Kathmandu - Contract-based

Backend Engineer

Oct 2025 – Present

- Architected the backend for a customer loyalty platform serving ~300 concurrent users since its launch in December 2025.
- Designed a decoupled REST API using Express.js and MongoDB, separating survey logic from campaign data.
- Implemented rate-limiting strategies compliant with **Brevo API** quotas to ensure stability.
- Developed abuse-prevention systems for reward distribution and profile verification.

Incubate Nepal

Kathmandu, Nepal

Software Engineering Intern → Peer Mentor

Jun 2022 – Dec 2022

- Selected for a competitive startup incubation program focused on applied software development.
- Collaborated under mentorship of a senior industry engineer (MIT EECS '19, Oracle) on system design and implementation decisions.
- Worked on feature scoping and implementation trade-offs in early-stage products.
- Later served as a peer mentor, supporting newer cohorts with code reviews and technical guidance.

LANGUAGES

English (TOEFL iBT score: 111), Nepali (Native), Japanese (Academically Proficient), Hindi (Fluent)

AWARDS

The MEXT (Monbukagakusho) Scholarship: Government of Japan.

National Representative for Nepal: 55th International Chemistry Olympiad (IChO), ETH Zurich.