██████████ a.k.a. *"daylily"*

Email i@dayli.ly   **Phone** ████████   **GitHub** re-xyr   **LinkedIn** ████████

Education

Carnegie Mellon University, *B.S. in Computer Science (GPA 4.00)*   *Pittsburgh, PA · Aug 2023 – Dec 2026*
- Relevant coursework: Intro to PL, Parallel Algorithms, Category Theory, Computer Systems, Intro to TCS, Intro to FP, Vector Calculus, Discrete Math, Linear Algebra, Intro to Linguistics

Work Experience

Google, *Software Engineering Intern (Travel Ads)*   *Mountain View, CA · May 2025 – Aug 2025*
STEP Intern (Google Learning)   *New York, NY · May 2024 – Aug 2024*
- (2025) Built a large-scale data pipeline for Hotel Ads data analysis, generating insights for 1k+ advertisers
- (2024) Implemented a new feature in the Google Search math solver and launched a user-facing live experiment
- Engaged extensively with the Google Search web stack, Ads bidding, and MapReduce data pipelines

MLabs Ltd., *Software Consultant (Haskell & Plutus)*   *London, UK (Remote) · Oct 2021 – May 2023*
- Developed PSL, an eDSL in Haskell for writing Cardano blockchain transaction specifications
- Implemented plutus-extra, a unit and property testing library for the Plutus smart contract language

Taichi Graphics, *Intern Compiler Engineer*   *Beijing, China · Nov 2021 – Mar 2023*
- Proposed and implemented a unified, coherent type system for the Taichi compiler, in place of ad-hoc validation logic
- Implemented various smaller-scale refactors and compiler passes, such as short-circuiting logical operators

Chinese Academy of Sciences, *Intern Research Engineer (PLCT Lab)*   *Beijing, China · Oct 2020 – Oct 2021*
- Core contributor to the open source HoTT proof assistant Aya Prover (320 stars on GitHub), mainly on its module and type systems

Personal Projects

Cleff   *https://github.com/re-xyr/cleff*
- Efficient and versatile effect handlers in Haskell, 2-5x performance gain compared to mainstream libraries
- Presented at ████████████████████████████; project gained 100+ stars on GitHub

Inkclip   *https://github.com/re-xyr/inkclip*
- A slim 1.54-inch e-ink wearable accessory with thin bezels, can be attached anywhere for versatile self-expression
- Custom PCB with STM32F411, Rust (embassy) firmware, and fully client-side web interface written in Svelte

Lilynet (AS401736)   *https://daylily.network*
- Educational dual-stack (IPv4+v6) network participating in global internet routing, active voting member of ARIN
- 3 virtual PoPs providing services including authoritative DNS, Tor relays, IPv6 tunneling, and anycast routing

Orizuru.app   *(WIP)*
- Federated, anonymous Q&A-based social media platform, built on ActivityPub, interoperable with the Fediverse
- Full-stack web application developed with SvelteKit, TailwindCSS, tRPC, PostgreSQL, and Fedify

Skills

- **Programming languages:** Haskell, TypeScript, HTML/CSS, Java, Kotlin, C/C++, Rust, Python, LaTeX
- **Technologies:** Functional programming, Compiler frontends, Type systems, Full-stack webdev, Data pipelines
- **Languages:** English: fluent, Mandarin: native