

# Ashvin Ranjan

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## Education

**University of Washington** | Expected June 2027

**GPA: 3.97/4.0**

*Bachelor of Science in Computer Science*

- Completed: Introduction to Computer Programming I, II, & III, Hardware/Software Interface, Foundations of Computing I, Data Structures & Algorithms, Software Design & Implementation.
  - Complete by June 2026: Foundations of Computing II, Shallow/Deep Processing Techniques for NLP (Master's courses), Advanced Statistical Methods in NLP (Master's course).
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## Skills

Languages: Typescript, Javascript, Python, Rust, Go, Java, C#

Next.js and React Frontend development

Typescript, Rust, and Go backend development

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## Experiences

**CLMBR** | Prof. Steinert-Threlkeld's Computational Linguistics research lab.

*Undergraduate Researcher*

*November 2024 - Present*

- Working on research toolkits for semantic typology in Python, helped with creating expression samplers with probabilistic models.
- Currently leading research using custom software to analyze relationships between convexity and Information Bottleneck systems.

**Inspirogram** | A Computer Science education non-profit.

*Software Engineering Intern*

*May 2022 - January 2023*

- Volunteered to help develop the website and write courses for the non-profit, which would be used to teach students in Tanzania.
- Utilized Next.js to help develop the website. Wrote courses on Unity and React.js software development and made presentations.

**Outreach** | A marketing and outreach company.

*Software Engineering Intern*

*July 2022 - August 2022*

- Utilized Go to develop a backend and command line interface to create company GitHub repositories with custom templates.
- Translated Ruby code into Go and created a custom YAML specification to allow for the creation of custom repository templates.

*Software Engineering Intern*

*June 2021 - August 2021*

- Collaborated with the calendaring experiences team in order to solve bugs in the calendar of the Next.js-based company website.
- Created outline for additional sections of the company website involving image processing and uploading by users using Next.js.

**Backbone** | A mobile gaming peripherals company.

*Software Engineering Intern*

*March 2020 - August 2020*

- Created an iOS application with Swift to send live stream data to a computer via USB to an OBS plugin for recording or streams.
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## Projects

**EMP** | [github.com/Ashvin-Ranjan/EMP](https://github.com/Ashvin-Ranjan/EMP)

*September 2021 - January 2022*

- Designed a bytecode schema for data packaging that is 12% more efficient than Non-Binary Tags and Javascript Object Notation.
- Developed a library and command line interface for the schema in Rust, published on crates.io with more than 5,400 downloads.

**Disadus** | [github.com/disadus](https://github.com/disadus)

*August 2021 - April 2022*

- Produced a learning management system with other students reaching over 300 registered users and over 10 student communities.
- Architected and developed the Next.js website and Typescript backend which integrated MongoDB, node mailer, and Firebase.

**Skyblock Tools** | [github.com/skyblock-tools](https://github.com/skyblock-tools)

*July 2021 - September 2022*

- Collaborated with a team of developers to create a Minecraft modification reaching over 3,000 active users with over 60 paying.
- Worked on web and backend development. Reduced server processing time by over 50% by refactoring backend code into Rust.

**N** | <https://github.com/nbuilding/N-lang>

*December 2020 - September 2022*

- Published documentation for the strictly-typed programming language that involved features such as generics, currying, and async.
- Developed an interpreted branch with Python and a transpiled to Javascript branch in Typescript in a team with other developers.