Ruel Nathaniel Alarcon

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Education

University of Saskatchewan   *Sept 2022 – June 2026 (Expected)*
BS in Computer Science Honours SE,
Minor in Mathematics

- Coursework: Operating Systems, Algorithm Analysis, Web Development, Computer Networking
- Consistent Deans List each year, Member of the CSSS, Computer Science Student Society

Experience

Software Developer   *Saskatoon, SK*
Biktrix Electric Bikes   *May 2023 – Present*

- Designed several Biktrix Website frontend sections with a team, improving user engagement
- Developed Biktrix Nexus, a proprietary tool for scraping, database storing, and analyzing sales data for all Biktrix points of sale including Shopify, Lightspeed, and Odoo simultaneously via their APIs
- Developed a multitude of backend tools including Shopify Apps for logging product updates/changes with Slack message integration, sharing carts between users, and managing Shopify webhooks
- Worked on a variety of modules for the Odoo ERP including backend and frontend code for generating product descriptions based on product specs with AI, and managing orders from Lightspeed POS

Projects

Korewa.AI   *korewa.ai* ↗

- Developed Korewa.AI, a site for creating AI chatbots with custom personalities, and visual emotions chosen with semantic analysis. Fine-tuned open-source LLMs on anime character dialogue via cloud GPU services, and hosted vector databases for memory retrieval.

A+ Social Network   *github.com/ruelalarcon/a_plus* ↗

- Worked with a small team to develop a massively scalable and observable social network to aid students in course management, share grade calculation templates, and share insights on classes with others.
- Tools Used: Node.js, GraphQL, Svelte, SQLite, Docker, Jest, Cypress, Winston, Prometheus, Grafana

Python Package - cpf3d   *pypi.org/project/cpf3d* ↗

- Developed an open source, public python package for working with 3cpf files, a custom binary file format I created for storing animated point-cloud data.

Blender Addon - as2p   *github.com/ruelalarcon/animated_surface_to_points* ↗

- Developed an open source blender addon for exporting colored animated meshes as 3cpf animations.

Desmos MIDI   *github.com/ruelalarcon/desmos_midi* ↗

- Developed a CLI tool and deployable webapp in Rust for recreating instruments from sine waves (additive synthesis) and converting MIDI music files to a formula that can be listened to in the Desmos Graphing Calculator. Created as a personal project to better understand music production software.

Spellcast Solver CLI   *github.com/ruelalarcon/spellcast_solver_cli* ↗

- Developed a high-performance cli tool in C to calculate the best moves in word-search-similar game Spellcast, utilizing OpenMP parallelization for multi-core performance optimization.

Volunteering

Sherbrooke Community Centre   *Feb 2020 – Present*

- Performing entertainment (piano) to the residents during meals on weekends. Also helped in other roles.

Holy Spirit Parish Saskatoon   *Dec 2021 - Mar 2022*

- Helped with managing and teaching staff how to manage the parish website, holyspiritsaskatoon.ca ↗