Jonathan **Urzua**

Software Engineer

Santiago, Chile

+1 (929) 233-4480 | hello@zenbaku.dev | www.zenbaku.dev | zenbaku | jonathanurzua

Summary

As a Software Engineer with extensive expertise in computer science fundamentals, modern programming languages, and web technologies, I specialize in designing robust software architectures and delivering comprehensive full-stack solutions. I champion clean code principles and believe that maintainable, well-documented software is crucial for long-term project success. My collaborative approach combines technical leadership with mentoring, fostering environments where teams can explore innovative solutions through thoughtful architecture discussions and strategic technical decisions.

Work Experience

Meta

New York, USA

Senior Software Engineer — *May. 2022 - Sept. 2024*

- Part of the technical staff behind Meta Horizon Worlds. Worked on Integrity space, ensuring users would have a safe experience in the metaverse. Built and deployed a platform to generate 2D images out of 3D objects (worlds) to automatically provide evidence when reviewing violating content and to train AI models to automate detection (**Hack**, **React**, **Python**, **C#**).

Foris AI

Santiago, Chile

Director of Engineering — *Agu. 2019 - Feb. 2022*

- Hired, trained and lead a team of 7 software engineers.
- Lead Developer on a course registration *PaaS* allowing students from Higher Education Institutions to choose among offered course sections and enroll into them, handling schedule conflicts, academic rules and wait lists. Course registration is a high-intensity, business-critical process with high load so the platform was designed around the concepts of auto-scaling and zero-downtime through hot upgrades. Deployed successfully on European and Latam institutions with peak of 40k concurrent users (**Elixir**, **Phoenix**, **PostgreSQL**, **React**, **EKS**).
- Planned and executed a migration from self-managed EC2 infrastructure to **Kubernetes (EKS)**.

Foris AI

Santiago, Chile

Co-Founder & Lead Software Engineer — *Ago. 2014 - Agu. 2018*

- Redesigned and implemented a state-of-the-art solution for the timetabling problem using genetic algorithms and local search heuristics. In production on +100 Higher Education Instutitions on LATAM region. Replaced previous implementation that failed to produce good results. Design of the solution allows multi-step, interruptible and resumable executions (**Python**, **PostgreSQL**, **RabbitMQ**).
- Lead Developer on *Stella*, a platform for Higher Education Institution to monitor, assist and predict student dropout. Implemented a rule engine in order to detect risk situations and initiate retention strategies (**Python**, **Django**, **PostgreSQL**, **GraphQL**, **JavaScript**, **VueJS**, **CSS**).
- Rebuilt company website using modern techologies scoring 100/100 on Google Lighthouse (**GastbyJS**, **React**, **CSS**, **Netlify**).

Foris

Santiago, Chile

Software Engineer — *Nov. 2011 - Ago. 2014*

- Lead Developer on *DarwinEd*, a web platform for Higher Education Institutions providing business solutions to academic timetabling, course demand prediction and course recommendations (**PHP**, **Python**, **MySQL**, **JavaScript**).
- Built a RESTful API for DarwinEd and refactored all the views of the app so they used the API instead, decoupling functionality and allowing external systems to interface with the product (**PHP**, **JavaScript**).
- Built an international trade platform for companies interested in imports and exports statistics. (**Ruby on Rails**, **PostgreSQL**, **R**).
- Built a BI platform for +500 Higer Education Institutions in LATAM and Spain countries interested in alumni employment. (**Java**, **Ruby**, **MySQL**).

Education

Johns Hopkins | Whiting School of Engineering

Baltimore, USA

M.S. in Artificial Intelligence — *Apr. 2024 - May. 2026 (expected)*

University of Chile | Faculty of Physical and Mathematical Sciences

Santiago, Chile

B.S. in Computer Science and Engineering — *Mar. 2009 - Dec. 2017*

- Got a scholarship for the full duration of the program given to top 100 nationwide applicants.
- Graduated with *Maximum Distinction* honor.
- Engineering thesis on the design and development of a language for data structures visualization. Available, in spanish, at https://repositorio.uchile.cl/handle/2250/152126.

Publications

• Urzúa J, Baloian N, Pino JA. Supporting Data Structures Visualization for Teachers and Learners. Proceedings. 2019; 31(1):8. https://doi.org/10.3390/proceedings2019031008