Vicente Juárez

SOFTWARE DEVELOPMENT

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Skills

Programming Languages	Python, Ruby, JavaScript, TypeScript, Dart, SQL
Frameworks & Libraries	Ruby on Rails, Flutter, Flask, Express.js, Angular
Data Stores	PostgreSQL, Redis
Testing & Automation	Selenium, RSpec, pytest
Cloud Services	Google Cloud Platform, Cloudflare, Backblaze, Rudderstack, New Relic, Mailgun, CircleCI
Development Environment	Linux, Docker, Docker Compose, Git, Jetbrains IDEs, VS Code
Key Competencies	Full-stack Development, Systems Architecture, Data Modeling, Algorithm Analysis, Software Security
Languages	Spanish (Native), English (Expert, TOEIC 985)

Education

Pontificia Universidad Católica de Chile   *Santiago, Chile*

BACHELOR OF SCIENCE IN ENGINEERING   *2021*

- Major in Computing and Information Systems - Computing Track
- Minor in Scientific and Technological Foundations of Computing
- Capstone: Designed the Express.js backend to expose a Machine Learning medical prediction model to the React frontend, coordinating model API contracts with ML engineers and integration points with frontend developers.

Experience

Pontificia Universidad Católica de Chile, Escuela de Gobierno   *Santiago, Chile*

SENIOR SOFTWARE ENGINEER & TEAM LEAD   *2022 - Present*

- Promoted from Developer to Team Lead of the project's technical aspects, collaborating with research stakeholders. I led a rotating team of 3-5 developers operating in a fully asynchronous and remote environment, with members located internationally, ensuring effective cross-timezone collaboration and project delivery through Scrum.
- Responsible for architectural design, meeting the project's scalability requirements for thousands of concurrent users.
- Wrote technical documentation for both developer and stakeholder audiences.
- Continued development of existing Python data processing workflows, Ruby on Rails and Angular applications within the project.
- Full-stack development of an AI-focused Flutter application with a Flask backend. Key features developed include:
  - Designed from the ground up following Material 3 design system.
  - Supported on web, mobile, and desktop platforms. Deployed in production as a web application, serving over 2,000 users.
  - Integrated the Gemini API with a custom RAG system to generate accurate responses to user queries about domain-specific procedures.
  - Implemented AI features including natural language search, summary generation, and domain-specific user guidance with enforced source attribution.
  - Curated a custom testing dataset and iteratively tuned RAG system search weights (keyword vs. vector) to reach target accuracy thresholds while minimizing hallucinations.
  - Validated accuracy threshold through internal testing with domain experts before production deployment.
  - Developed a Flask microservice for the AI requests, coordinating with the existing API platform via shared secrets and JWT authentication.
- Extensive use of Google Cloud Platform for the architectural needs of the project's applications. Key technologies include:
  - Led transition from a single VPS to full deployment within Google Cloud Platform.
  - Architected and deployed 4 services via Google Cloud Run, utilizing autoscaling to handle traffic spikes while maintaining costs below budget.
  - Processed large asynchronous jobs (20,000 custom email campaigns) through Cloud Tasks, with developer environment replication using Redis and Cloudtasker (Ruby library).
  - Utilized Cloud SQL for database management and Cloud Storage for user-facing assets.
  - Monitored service health via Cloud Monitoring, enabling rapid incident response on the production environment.
  - Managed IAM for the development team and service accounts, applying Least Privilege principles to reduce risk in case of a security incident.
  - Migrated data transformation from dbt to BigQuery and consolidated analytics on Looker, enabling the research team to derive actionable insights from large datasets without affecting web service performance.

Pontificia Universidad Católica de Chile, Escuela de Gobierno
Santiago, Chile

Full-stack Developer
2020 - 2022

- Research project "Residential mobility, rent subsidy and quality of life", focused on improving awareness and usage rates of housing subsidies through novel technological solutions.
- Full-stack development (including design and maintenance) of a Ruby on Rails web application. Key features developed include:
  - High-traffic application, with over 8,000 monthly users.
  - Public API for use by other applications in the project.
  - Implemented strict data security standards through field-level encryption and role-based access controls.
  - WYSIWYG editors for multiple custom content types.
  - Node-based visual editor for designing complex email campaign workflows.
- Maintenance and extension of a user-facing Angular application. Key features developed include:
  - Advanced user behavior tracking through Rudderstack and APM via New Relic.
  - Conversion of visual designs into Angular components, dynamically powered from the internal API.
  - Complex interface featuring deep integration with the Google Maps API and an internal PostGIS-enabled database.
- Extension of multiple Apache Airflow workflows handling user behavior data. Later ported into discrete Python workflows and dbt pipelines for live data.

E-commerce Client
Santiago, Chile

Freelance Full-stack Developer
2022

- Developed and configured a complete e-commerce platform using WordPress and WooCommerce, including PayPal payment integration and custom tax/shipping calculation plugins.
- Engineered a custom plugin for complex business logic (tax and shipping calculations), extending standard WooCommerce functionality.
- Designed and developed a marketing landing page with optimized conversion flow.

Multiple Clients
Santiago, Chile

Freelance Full-stack Developer
2020

- Delivered 3+ freelance projects on schedule across diverse technology stacks.
- Converted visual designs into code, involving complex CSS and dynamic content with Stimulus (JavaScript).
- Setup and maintenance of web architecture with Ruby on Rails, including complete VPS infrastructure, hosting dynamic assets, custom analytics, database, and a deployment strategy via Capistrano.
- Deployed a static site on Render, including optimized assets (Backblaze storage and Cloudflare caching) and a CI/CD pipeline via GitHub Actions.

Corporate Client
Santiago, Chile

Freelance Tooling Developer
2019

- Developed data aggregation tools for a corporate client's market research, collecting publicly available data from dynamic web sources.
- Engineered robust Selenium automation of JavaScript-heavy sites with responsible crawling practices (rate-limiting, User-Agent headers compliance).

Pontificia Universidad Católica de Chile
Santiago, Chile

Teaching Assistant at Faculty of Engineering, Computer Science Department
2017-2019

- Teaching Assistant for the courses Introduction to Programming and Advanced Computer Programming.
- Responsible for the design and grading of evaluations within the course, including take-home Python projects and written evaluations.
- Weekly tutoring sessions with students.