

# FABIÁN A. ARANEDA-BALTIERRA

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## EDUCATION

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<b>M. S. in Computational Analysis and Public Policy.</b> University of Chicago. IL, USA.	June 2023
<b>Engineer in Computer Science.</b> Universidad de Concepción. Concepción, Chile.	June 2018
<b>M. A. in Strategic Communication and Business.</b> Universidad del Desarrollo. Concepción, Chile.	February 2017
<b>Journalist.</b> Universidad San Sebastián. Concepción, Chile.	June 2014

## PROFESSIONAL EXPERIENCE

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<b>Research Software Engineer. University of Illinois Urbana-Champaign.</b> Center for Astrophysical Surveys at the <b>National Center for Supercomputing Applications (NCSA).</b> <ul style="list-style-type: none"><li>Developed, deployed, and maintained a robust data pipeline for the <a href="#">SciMMA project</a> usage metrics, leveraging Python, Terraform, Kubernetes, InfluxDB and Grafana to analyze and visualize data. This enabled real-time insights into project utilization and significantly improved data accessibility.</li><li>Pioneered the use of large language models and vector databases to enhance data accessibility within the <a href="#">Rubin Observatory's</a> LSST project. Developed experimental chatbots using OpenAI's API and LangChain, to be used as knowledge managers and coding assistants.</li></ul>	October 2023 – To Date
<b>Data Analyst (full-time intern). United Nations Development Programme (UNDP), New York (remote).</b> <ul style="list-style-type: none"><li>Maintained pipelines to collect, clean and store data from government agencies across the globe.</li><li>Conducted data analysis and created reports and dashboards to support decision making.</li><li>Analyzed the “Sustainable Development Goals” metrics to improve their evaluation methodologies</li></ul>	January 2023 – May 2023
<b>Research Assistant (full-time intern). Yale University, Department of Economics, New Haven (remote).</b> <ul style="list-style-type: none"><li>Supported <a href="#">ConsiliumBots</a> team (education NGO) by creating REST APIs, back-end applications, and machine learning models for simulators and recommenders oriented to high school students.</li></ul>	June 2022 – December 2022
<b>Software Engineer. LawLogix (an Equifax Company).</b> Phoenix, AZ (remote). <ul style="list-style-type: none"><li>Successfully updated, corrected errors, and implemented new features for Edge, a comprehensive cloud-based software for immigration cases management in the United States of America.</li><li><i>Project Highlight:</i> as a part of a sub-team, we created a Google Chrome extension for our clients that decreased the time to fill the DS-160 online form in a 95%, using existing data from our data bases.</li></ul>	November 2019 – June 2022
<b>Executive Coordinator. Effective Access to Higher Education Program at Universidad de Talca.</b> Chile. <ul style="list-style-type: none"><li>Led a 22-person interdisciplinary team, and successfully managed a USD \$2.0 million budget, to coordinate the right implementation of an affirmative action public policy that grants equal access to university education for students coming from at-risk contexts in Chile's Maule Region.</li><li><i>Project Highlight:</i> Designed and supervised the implementation of a Software as a Service (SaaS) platform, from the data modeling to the dashboards design, to monitor academic performance and wellbeing in the first-year students with academic and psychological accompaniment.</li></ul>	August 2015 – December 2018
<b>Junior Consultant. Periodistas Asociados,</b> Strategic Communication Consulting Firm. Concepción, Chile. <ul style="list-style-type: none"><li>Designed and implemented communication plans and strategies, aligned with our clients' business goals, to achieve their positioning and effective bonding with local authorities and communities.</li><li>Planned and performed quantitative and qualitative studies, and press analysis, to diagnose our clients' recognition and approval levels, as a result of the implemented strategies.</li></ul>	March 2014 – July 2015

## TEACHING EXPERIENCE

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<b>Teaching Assistant. The University of Chicago,</b> The Kenneth C. Griffin Department of Economics. <ul style="list-style-type: none"><li>Conduct in-person R labs for undergrad students of ECON 11310 (Big Data and Better Decisions).</li></ul>	March 2023 – June 2023
<b>Instructor (part-time). Taught in-person classes</b> in the following subjects and institutions. <ul style="list-style-type: none"><li><b>Python Programming</b> (Engineering students), <b>Universidad Técnica Federico Santa María</b>, Chile. 2019 – 2021</li><li><b>Computer Programming</b> (Engineering students), <b>Universidad de Concepción</b>, Chile. 2021</li><li><b>Science, Technology and Society</b> (Medical Technology students), <b>Universidad de Talca</b>, Chile. 2016</li><li><b>Communication Aspects in the Thesis Project</b> (Engineering students), <b>Universidad de Talca</b>, Chile. 2016</li></ul>	

## SKILLS

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- **Coding:** Python, JavaScript, HTML, CSS (*proficient*). MATLAB, Bash (*comfortable*). C, C++ (*familiar*).
- **Data Bases:** PostgreSQL, MySQL, InfluxDB (*proficient*). Weaviate, MongoDB, AWS S3, DynamoDB (*comfortable*).
- **Data Analysis/ML:** R, Numpy, Pandas, BeautifulSoup (*proficient*). PyTorch, Scikit-Learn, Stata (*comfortable*).
- **Data Visualization:** Plotly, Matplotlib, D3.js (*proficient*). Grafana, Seaborn, Tableau, PowerBI, GIS (*comfortable*).
- **Web Frameworks:** Django, Flask (*proficient*). Fast API, React, Bootstrap, Angular, NodeJS, .Net (*comfortable*).
- **DevOps:** Docker, Kubernetes, Terraform, Jenkins, Ansible, GitHub Actions, AWS Lambda (*comfortable*).
- **Workflow and Tools:** Agile Methodology, Jira, Confluence, Git, GitHub, Figma UI/UX Design, Unix, LaTeX (*proficient*).
- **Soft Skills:** Event Planning, Public Speaking, Writing, Team Leadership, Project Management.

## ADDITIONAL ACADEMIC EXPERIENCE

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### Research Assistant experience while studying engineering at the Universidad de Concepción.

- "Using Neural Networks to Find Patterns in Lexical Availability Surveys". Processed data and trained simple neural network models to find patterns using MATLAB. **1 semester**
- "Using Genetic Algorithms to Correct RAPD Images". Experimented with the hybridization of genetic algorithms with metaheuristic techniques to automatically improve Random Amplified Polymorphic DNA (RAPD) images using MATLAB. **1 semester**

### Teaching Assistant experience while studying engineering at the Universidad de Concepción.

- Taught practical classes to reinforce the theoretical concepts taught by the professors.
- Led independent classroom work with groups between 20 and 70 students.
  - Linear Algebra **5 semesters**
  - Software Engineering **1 semester**

### Publications:

- Baeza, I.; Gutiérrez, N.; Araneda, F. y Sepúlveda, M. (2018). *Caracterización de primera generación de estudiantes PACE que ingresan a la Universidad de Talca* [Characterization of the first-generation PACE students enrolled into the Universidad de Talca]. Cuadernos de Inclusión en Educación Superior, Univ. de Santiago de Chile (ISN 0719-9953). Downloadable at: <https://bit.ly/36Bmz79>.

## AWARDS AND SCHOLARSHIPS

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- **Harris School of Public Policy Scholarship.** University of Chicago, USA **2021 - 2023**
- **International Mobility Scholarship.** Banco Santander, Chile. **2012**
- **Social Sciences Faculty's Scholarship.** Universidad San Sebastián, Chile. **2009 - 2013**

## COURSES AND SEMINARS

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- **DevOps Certificate.** Purdue University, Online Postgraduate Certification Program (ongoing). **Apr - Dec 2024**
- **Digital Tools for Data Journalism.** Knight Center for Journalism in the Americas, U. of Texas, Austin. **August 2015**
- **Scientific Communication.** Dirección de Extensión, Universidad de Concepción, Chile. **January 2015**
- **Crisis Management and Effective Communication.** Universidad del Desarrollo. Concepción, Chile. **October 2014**
- **Certificate in Organizational Communication.** University of Wisconsin Eau-Claire, USA. **May 2014**

## LEADERSHIP AND VOLUNTEERING

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- **Pro Bono Data Researcher.** FootShot, Chilean start-up that uses pattern recognition technology in thermal images to prevent Diabetes Foot disease. **August 2020 - March 2023**
- **Volunteer Instructor.** Infocap Institute, Concepción, Chile. **April 2014 - May 2015**
- **Social Media Director.** Chippewa Valley School Journalism Association, Eau Claire, Wisconsin, USA. **September - December 2013**
- **Vice-President.** International Student Association. U. of Wisconsin-Eau Claire, USA. **September - December 2013**
- **Reporter.** InsideEC, digital magazine. University of Wisconsin-Eau Claire, USA. **January - June 2013**
- **Leadership and Social Programs Manager.** Colegio San Agustín, Concepción, Chile. **March 2008 - December 2012**