

# Claudio Aracena

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## Education

- **University of Chile** **Santiago, Chile**  
*PhD in Engineering Systems* 2021 - 2024
  - **University of Sydney** **Sydney, Australia**  
*Master of Information Technology and Master of Information Technology Management* 2015 - 2017
  - **University of Chile** **Santiago, Chile**  
*Industrial Engineering with Major in Information Technology* 2008 - 2013  
Graduated with highest distinction
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## Experience

- **GobLab UAI - Adolfo Ibáñez University** **Santiago, Chile**  
*Associate Researcher* January 2022 - Present  
*Data Scientist* October 2019 - December 2021
    - Data analysis for GobLab UAI projects and grant applications. Main projects: analysis of citizens' comments about Congress bills using NLP and air pollution forecasting in an industrial zone.
  - **Chilean Safety Association** **Santiago, Chile**  
*Data Science Consultant* October 2022 - Present
    - Pre-training of clinical language models and applications.
  - **Data Science for Social Good Fellowship** **Kaiserslautern, Germany**  
*Fellow* June - September 2023
    - Development of a project to reduce response time by Red Cross ambulances using early relocation.
  - **Chatbot Chile** **Santiago, Chile**  
*Co-founder* July 2017 - Present
    - Development of chatbots for several clients and dashboard for chatbot administration (chatbotchile.cl).
  - **Center for Mathematical Modeling - University of Chile** **Santiago, Chile**  
*Project Engineer* October 2018 - September 2019
    - No-show prediction for medical appointments at the Luis Calvo Mackenna Hospital using machine learning.
  - **Data61, CSIRO** **Sydney, Australia**  
*Associate Software Developer* October 2015 - December 2016
    - Software development for 64knots team (freight and shipping optimization and machine learning group).
  - **VSB - Technical University of Ostrava** **Ostrava, Czech Republic**  
*Research Intern* October 2014 - January 2015
    - Study of relation between pupil dilation and emotions based on neural network analysis.
  - **Web Intelligence Centre - University of Chile** **Santiago, Chile**  
*Project Engineer* 2014
    - Study of relation between EEG, pupil dilation, and emotions based on machine learning methods. Application of results to web object saliency.
    - Keep track of the AKORI project and write progress reports for funding institution.
  - **Infosys Limited** **Bangalore, India**  
*Intern* January - March 2013
    - Development of a text classification project using tweets. Data modeling and implementing a database for tweets storage and posterior analysis.
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## Teaching Experience

- **Adolfo Ibáñez University, School of Government** **Santiago, Chile**  
*Academic Director* 2023 - Present  
*Lecturer* 2020 - Present
    - Machine Learning and Text Mining courses of the Diploma of Data Science for Public Policy, and Data Science Project Scoping course.
  - **University of Development, Faculty of Engineering** **Santiago, Chile**  
*Lecturer* 2018 - 2022
    - Course of storage and data capture of Master of Data Science program.
  - **Intersect Australia** **Sydney, Australia**  
*Trainer* February 2018 - August 2018
    - Teaching using live coding methodologies (Python, R, SQL, MATLAB, BASH, GIT, among others).
  - **University of Chile, Department of Industrial Engineering** **Santiago, Chile**  
*Lecturer* March 2014 - July 2014
    - Course of Data Warehousing.
  - **University of Chile, Department of Industrial Engineering** **Santiago, Chile**  
*Teaching Assistant* 2012 - 2013
    - Information Technologies: 2 semesters; Web Mining: 2 semesters
    - Introduction to Knowledge Management and Web and Business: 1 semester each course
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## Publications

### Journal papers

- Dunstan, J., Vakili, T., Miranda, L., Villena, F., **Aracena, C.**, Quiroga, T., Vera, P., Viteri, S. Rocco, V. A pseudonymized corpus of occupational health narratives for clinical entity recognition in Spanish (2024). *BMC Medical Informatics and Decision Making*, 24(1), 204.
- Aracena, C.**, Villena, F., Arias, F., Dunstan, J. Aplicaciones de aprendizaje automático en salud (2022). *Revista Médica Clínica Las Condes*, 33(6), 568-575.

### Conference papers

- Rodolfo Garcia-Flores, Soumya Banerjee, George Mathews, Blandine Vacher, Brian Thorne, Nazanin Borhan, **Claudio Aracena** and Yuriy Tyshetskiy. Analysis of Demand and Operations of Inter-modal Terminals (2017). National Conference of the Australian Society for Operations Research.
- Oweis, N.E., **Aracena, C.**, George, W., Oweis, M., Soori, H., Snasel, V. Internet of Things: Overview, Sources, Applications and Challenges (2016). Proceedings of the Second International Afro-European Conference for Industrial Advancement AECIA.
- Aracena, C.**, Basterrech, S., Snášel, V., and Velásquez, JD. Neural Networks for Emotion Recognition Based on Eye Tracking Data (2015). IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC).
- Slanzi, G., **Aracena C.**, and Velásquez, JD. Eye tracking and EEG features for salient Web object identification (2015). International Conference on Brain Informatics & Health (BIH).

### Workshop papers

- Aracena, C.**, Miranda, L., Vakili, T., Villena, F., Quiroga, T., Núñez-Torres, F., Rocco, V., and Dunstan, J. A Privacy-Preserving Corpus for Occupational Health in Spanish: Evaluation for NER and Classification Tasks (2024). The 6th Clinical Natural Language Processing Workshop at NAACL.
- Aracena, C.**, Rodríguez, N., Rocco, V., and Dunstan, J. Pre-trained language models in Spanish for health insurance coverage (2023). The 5th Clinical Natural Language Processing Workshop at ACL.
- Aracena, C.**, and Dunstan, J. Development of pre-trained language models for clinical NLP in Spanish (2023). Student Research Workshop (SRW) at EACL.
- Aracena, C.**, Villena, F., Rojas, M., and Dunstan, J. A Knowledge-Graph-Based Intrinsic Test for Benchmarking Medical Concept Embeddings and Pretrained Language Models (2022). International Workshop on Health Text Mining and Information Analysis (LOUHI) at EMNLP.

**Aracena, C., Loyola, P., Slanzi, G., Matsuo, Y., and Velásquez, JD.** Towards An Unified Replication Framework for EEG-based Emotion Classification (2015). BrainKDD: The 2nd International Workshop on Data Mining for Brain Science at ACM SIGKDD.

### Policy Papers

Gabriela Denis, María Paz Herмосilla, **Claudio Aracena**, Roberto Sánchez Ávalos, Natalia González Alarcón, and Cristina Pombo. Responsible use of AI for public policy: Project formulation manual (2021). Inter-American Development Bank Publications.

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### Core Technical Skills

**Programming Languages:** Python, R, Javascript, SQL, PHP, Java, MATLAB, L<sup>A</sup>T<sub>E</sub>X.

**Operative Systems:** Ubuntu, Windows

**Frameworks and technologies:** Pytorch, HuggingFace, Django, Wordpress, Amazon Web Services, GIT, Docker, Microsoft Office (Excel, Word and Power Point).

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### Languages

**Spanish:** Native speaker

**English:** Advanced – TOEFL Score: 96 (2015)

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### Distinctions

- **ANID** **Santiago, Chile**  
*Scholarship for National PhD programs* 2021 - 2024
  - The scholarship is awarded to selected students who pursue a PhD program in a Chilean university.
- **Conicyt** **Santiago, Chile**  
*Becas Chile (Scholarship)* 2015 - 2017
  - The scholarship is awarded to students who pursue a postgraduate degree in a remarkable foreign university and have shown excellent academic records.
- **University of Chile** **Santiago, Chile**  
*University of Chile Scholarship* 2007 - 2013
  - It is awarded to the first 100 students that have been selected by the university for the first year.