Felipe Elorrieta López

Personal Data

Place and Date of Birth:	Chile | 3 December 1987
Address:	Duble Almeyda 2602, Ñuñoa, Santiago, Chile
Phone:	+569 6816 0793
email:	felipe.elorrieta@usach.cl

SUMMARY

I am a statistical engineer from Universidad de Santiago, Santiago, Chile, received in 2011, M.S. degree in statistics from Pontificia Universidad Católica, Santiago, Chile, received in 2013, Ph.D. degree in statistics from Pontificia Universidad Católica, Santiago, Chile, received in 2018. In 2014, I received the Conicyt scholarship to study the Ph.D. degree in statistics. From 2014 I am also part of the Millennium Institute of Astrophysics (MAS). I am currently an Assistant Professor in the Faculty of Science, Department of Mathematics and Computer Science at Universidad de Santiago, Chile. My research interests are the analysis of time series data and the statistical methods used in classification problems.

Education

October 2018	PhD in Statistics, **Catholic University of Chile**, Santiago Thesis: "Classification and Modelling of time series of astronomical data" Advisor: Prof. Susana Eyheramendy Graduated with Highest Honors.
March 2013	Master in Statistics, **Catholic University of Chile**, Santiago
May 2011	Statistical Engineer, **University of Santiago**, Santiago
Mar 2010	Bachelor of Science in Statistics and Computing, **University of Santiago**, Santiago

Work Experience

Current Jan 2022	Associate Professor at University of Santiago, Santiago
Current Mar 2014	Young Researcher at Millenium Institute of Astrophysics, Santiago
Current Mar 2021	Alternate Director at Data-Salud USACH, Santiago
Current Mar 2021	Researcher at Center for Interdisciplinary Research in Astrophysics and Space Sciences, Santiago
Jan 2018-Dec 2021	Assistant Professor at University of Santiago, Santiago
Mar 2013-Dec 2021	Professor in Diploma of Data Mining at University of Santiago, Santiago
Sep 2013-Dec 2017	Part-time Professor at University of Santiago, Santiago
Jan 2010 - Feb 2014	Statistical Analyst at National Institute of Statistics, Santiago

PUBLICATIONS

- Ojeda, C, Palma, W, Eyheramendy, S., **Elorrieta, F**. 2023. "Extending time series models for irregular observational gaps with a moving average structure for astronomical sequences". Royal Astronomical Society Techniques and Instruments.rzac011, https://doi.org/10.1093/rasti/rzac011

- Ayala A, Villalobos Dintrans P, **Elorrieta F**, Maddaleno M, Vargas C y Iturriaga A. 2023. COVID-19 en Chile: análisis de su impacto por olas y regiones. Revista Médica de Chile.

- Varas S, **Elorrieta F**, Vargas C, Villalobos Dintrans P, Castillo C, Martinez Y, Ayala A, Maddaleno M. 2022. Factors associated with change in adherence to COVID-19 personal protection measures in the Metropolitan Region, Chile. PLOS ONE 17(5): e0267413. https://doi.org/10.1371/journal.pone.0267413

- Dammert, L., **Elorrieta, F**., & Alda, E. 2021. Satisfaction with the Police in Chile: The Importance of Legitimacy and Fair Treatment. Latin American Politics and Society, 63(4), 124-145. doi:10.1017/lap.2021.40

- Ayala A, Villalobos Dintrans P, **Elorrieta F**, Castillo C, Vargas C, Maddaleno M. Identification of COVID-19 Waves: Considerations for Research and Policy. International Journal of Environmental Research and Public Health. 2021; 18(21):11058. https://doi.org/10.3390/ijerph182111058

- **Elorrieta, F**., Eyheramendy, S., Palma, W., Ojeda, C. 2021. A novel bivariate autoregressive model for predicting and forecasting irregularly observed time series, Monthly Notices of the Royal Astronomical Society, Volume 505, Issue 1, Pages 1105–1116. https://doi.org/10.1093/mnras/stab1216

- Forster F, Cabrera-Vives G, Castillo-Navarrete E, Estévez PA, Sánchez-Sáez P, Arredondo J, Bauer FE, Carrasco-Davis R, Catelan M, **Elorrieta F**, Eyheramendy S, et al. 2021. The Automatic Learning for the Rapid Classification of Events (ALeRCE) Alert Broker. The Astronomical Journal, 161(5), 242. https://doi.org/10.3847/1538-3881/abe9bc

- Sánchez-Sáez, P., Reyes, I., Valenzuela, C., Forster, F., Eyheramendy, S., **Elorrieta, F**., Bauer, F.E., Cabrera-Vives, G., et al. 2021. Alert classification for the ALeRCE broker system: The light curve classifier. The Astronomical Journal 161(3), 141. https://doi.org/10.3847/1538-3881/abd5c1

- **Elorrieta F**, Eyheramendy S, Palma W. 2019. Discrete-time autoregressive model for unequally spaced time-series observations. A&A, 627, A120. doi:10.1051/0004-6361/201935560. https://doi.org/10.1051/0004-6361/201935560

- Eyheramendy, S., **Elorrieta, F**., Palma, W. 2018. An irregular discrete time series model to identify residuals with autocorrelation in astronomical light curves. Monthly Notices of the Royal Astronomical Society, 481(4): 4311-4322.

- Dekany, I., Hadju, G., Grebel, E.,K., .et al. including **Elorrieta, F**. 2018. "A Near-infrared RR Lyrae Census along the Southern Galactic Plane: The Milky Way's Stellar Fossil Brought

to Light". The Astronomical Journal, 857, A54.

- Eyheramendy, S., **Elorrieta, F.**, Palma, W. 2016. "An autoregressive model for irregular time series of variable stars". Proceedings of the International Astronomical Union, 12(S325), 259-262.

- **Elorrieta, F.**, Eyheramendy, S. Jordán, A., et al. 2016. "A Machine Learned Classifier for RR Lyrae in the VVV Survey". Astronomy & Astrophysics, 595, A82.

- Gran, F., Minniti, D., Saito, R., K., et al. including **Elorrieta, F.** 2016. "Mapping the outer bulge with RRab stars from the VVV Survey". Astronomy & Astrophysics, 591, A145.

TEACHING

2014 - Current	Time Series Analysis.
2016 - 2018 & 2023	Analysis of Financial Time Series.
2013 - 2016 & 2019 - 2022	Algorithms in Data Mining.
2018 - 2019	Numerical Methods in Statistics.
2013 - 2021	Classification and Segmentation Methods (Data Mining Diploma).
2013 - 2015	Computational Statistics (Data Mining Diploma).

SOFTWARE PACKAGES

Mantainer	iAR: Irregularly Observed Autoregressive Models	R & Python

Presentations

Jun 2022	8th International Conference on Time Series and Forecasting (ITISE 2022), **Gran Canaria**, Spain. Contributed talk: "Online estimation methods for irregular autoregressive models"
Jun 2021	7th International Conference on Time Series and Forecasting (ITISE 2021), **Gran Canaria**, Spain. Contributed talk: "Discrete-Time Autoregressive Models for irregularly observed time series"
Jun 2021	Statistical Challenges in Modern Astronomy VII, **Penn State**, USA. Contributed poster: "iAR: An R Package to analize irregularly observed autoregressive models"
May 2021	VI Congreso Chileno de Salud Pública, **Santiago**, Chile. Contributed talk: "Estimación del sub-reporte de casos activos debido al rezago en el reporte: Una a
Apr 2021	XXXIII Jornada de Matemática de la Zona Sur, **Temuco**, Chile. Invited talk: "Estimación del sub-reporte de casos activos debido al rezago en el reporte: Una aplica
Jan 2021	III Jornadas de Ingeniería Estadística Universidad del Bío-Bío, **Concepción**, Chile. Invited talk: "GEMVEP: Dashboard e Informes Analíticos para el estudio y seguimiento del Covid-19.
Oct 2020	Día Mundial de la Estadística "Estadística y COVID-19", **Santiago de Cali**, Colombia. Invited talk: "Métodos Estadísticos para el estudio y seguimiento del COVID-19 en Chile"
Jun 2020	Conversatorio COVID-19 Sociedad Chilena de Estadística, **Santiago**, Chile. Invited talk: "SARS-CoV2: Desafíos en la vigilancia de la pandemia en Chile"
May 2019	5th MAS Workshop, **Pirque**, Santiago. Contributed talk: "Discrete-time autoregressive models to identify autocorrelation in the residuals from models of light curves"
Jan 2018	4th MAS Workshop, **Machalí**, Santiago. Contributed talk: "Astrostatistics: Classification of astronomical objects and development of irregular time series models"
Dec 2016	3rd MAS Workshop, **Viña del Mar**, Chile. Contributed talk: "An autoregressive model for irregularly spaced astronomical time series"
Oct 2016	IAU Symposium on Astroinformatics, **Sorrento**, Italy. Contributed poster: "A Machine Learned Classifier for RR Lyrae in the VVV Survey"
Nov 2015	2nd MAS Workshop, **Olmue**, Chile Contributed poster: "Automated classification of RRLyrae stars from the VVV project"
Aug 2015	CMM Symposium PUCON 2015, **Puerto Varas**, Chile Contributed talk: "Automated classification of RRLyrae stars from the VVV project"
Aug 2014	Kickoff MAS, **Los Andes**, Chile Contributed poster: "Automated classification of RRLyrae stars from the VVV project"

Scholarships and Certificates

Mar 2014-Feb 2018	Conicyt Scholarship, Doctorado Nacional.

SKILLS

Statistical Languagues:	R, PYTHON, SAS, SPSS
Tools:	LaTeX, JUPYTER, mySQL, LINUX

SOCIAL MEDIA & RESEARCH LINKS

University of Santiago
GitHub
Google Scholar
ResearchGate
ORCID ID
Linkedin

LINKS OF INTEREST

iAR package R
iAR package Pypi
MAS
ALeRCE
CIRAS
Data-Salud-USACH
GEMVEP-USACH