

# ALEJANDRO BELTRAN

The Alan Turing Institute, British Library, 96 Euston Road, London NW1 2D  
abeltran@turing.ac.uk ◊ www.BeltranAlejandro.com

## RESEARCH INTERESTS

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- Public Finance
- Latin American Politics
- Comparative Public Administration
- Computational Social Science
- Natural Language Processing

## CURRENT APPOINTMENTS

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<b>The Alan Turing Institute</b> <i>Postdoctoral Research Associate, Public Policy Programme</i>	<b>London, UK</b> <i>June 2022-Present</i>
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## EDUCATION

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<b>University of Arizona</b> PhD, Government and Public Policy Dissertation: <i>Accounting for Corruption: Evaluating State Audit Agencies in Mexico</i> Committee: Edella Schlager (Chair), Javier Osorio (Co-Chair), Brint Milward	<b>Tucson, AZ</b> <i>May 2021</i>
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<b>University of Arizona</b> MA, Government and Public Policy	<b>Tucson, AZ</b> <i>May 2018</i>
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<b>Universidad Autónoma de Sinaloa</b> Licenciatura en Políticas Públicas, International Exchange Student: University of New Mexico, 2013-2014 International Exchange Student: The Washington Center, 2014-2015	<b>Culiacán, MX</b> <i>June 2015</i>
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## PREVIOUS APPOINTMENTS

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<b>University of Arizona</b> <i>Postdoctoral Research Associate, School of Government and Public Policy</i>	<b>Tucson, AZ</b> <i>2021-2022</i>
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<b>Inter-American Development Bank</b> <i>Data Science &amp; Decentralization External Consultant, Fiscal Management Division</i>	<b>Washington, DC</b> <i>2021-2022</i>
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<b>University of Arizona</b> <i>Research Associate, School of Government and Public Policy</i>	<b>Tucson, AZ</b> <i>2018-2021</i>
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<b>University of Arizona</b> <i>Teaching Assistant, School of Government and Public Policy</i>	<b>Tucson, AZ</b> <i>2016-2018</i>
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<b>D&amp;P Creative Strategies</b> <i>Public Policy Intern, Government Relations</i>	<b>Washington, DC</b> <i>2014-2015</i>
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<b>Senate Majority Whip's Office</b> <i>Public Policy Intern</i>	<b>Santa Fe, NM</b> <i>2013</i>
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<b>Universidad Autónoma de Sinaloa</b> <i>Research Assistant, Facultad de Estudios Internacionales y Políticas Públicas</i>	<b>Culiacán, MX</b> <i>2012</i>
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## RESEARCH PAPERS

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### Book

*Ciudades, Desarrollo Urbano y Autonomía Financiera: Dilemas para la Gobernanza Local en México*, with Mercedes Verdugo López, Juan Pablos Editor, Culiacán, 2017 (in Spanish)

### Peer-Reviewed Articles

“Enhancing the Detection of Criminal Organizations in Mexico using ML and NLP”, with Javier Osorio, IJCNN 2020, Proceedings of the IEEE World Conference on Computational Intelligence, Glasgow, July 2020.

“Supervised Event Coding From Text Written in Arabic: Introducing Hadath”, with Javier Osorio, Alejandro Reyes, and Atal Ahmadzai, Proceedings of AESPEN 2020, Language Resources and Evaluation Conference, Marseille, May 2020: 49-56

### Conference Papers

“Fiscal Data in Text: Information Extraction from Audit Reports using NLP”, Data Analytics for Anticorruption in Public Administration Symposium, Washington DC, October 2021

“Accounting for Corruption: Evaluating Audit Institutions in Mexico”, APSA, Seattle, October 2021

“Accounting for Corruption: Evaluating State Audit Agencies in Mexico”, SGPP, March 2021

“Politics as Usual: Evaluating Audit Agency Performance in Mexico”, APSA, San Francisco, September 2020

“The Fentanyl Connection: Violence at Mexican Ports”, MPSA, Chicago, April 2020

“Is no news really good news? Media reports of gender-based violence and perceptions of women’s rights in Mexico”, with Alexis Work, MPSA, Chicago, April 2020

“The Fentanyl Connection: Violence at Mexican Ports”, 4 Corners Conflict Network Conference, Tucson, January 2020

“Tracking Drug Trafficking Organizations in Mexico using Web Scraping and NLP”, CSS Mini-Conference, Tucson, December 2019

“Is no news really good news? Media reports of gender-based violence and perceptions of women’s rights in Mexico”, with Alexis Work, The Public and Democracy in the Americas Conference, LAPOP, Bogota, October 2019

“The Fentanyl Connection: Violence at Mexican Ports”, Red de Estudios Sobre Drogas en America Latina, Mexico City, October 2019

“Protecting My Friends: Corruption Networks in Mexico”, APSA, Washington DC, September 2019

“Taxing and Relaxing: How Competitive Elections Fuel Punctuations in Taxation”, WPSA, San Diego, April 2019

“Taxing and Relaxing: How Competitive Elections Fuel Punctuations in Taxation”, MPSA, Chicago, April 2019

## Works in Progress

“Overhyped? Supreme Audit Institutions and Autonomy”

“Femicides in the Press: Classifying Sentiments Using Machine Learning”, with Alexis Work

“Perfect Timing: Forbearance and Political Budget Cycles in Mexico”

“Politics as Usual: Evaluating Audit Agency Performance in Mexico”

“Tracking Corruption: News Archival Analysis Using ML and NLP”

## RESEARCH EXPERIENCE

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### Analyzing Migration Patterns From Central America

*Postdoctoral Research Associate,*

*September 2021 - Present*

-Scraped 1.5M news articles from Central America on migration and violence.

-Used natural language processing to extract information from articles, project info available here.

### Dissertation Research

*Accounting for Corruption: Evaluating Audit Agencies in Mexico,*

*January 2019 - May 2021*

-Used a linear probability model with fiscal and electoral data to predict audits.

-Extracted data from audit reports using NLP and ML, code and presentation available here.

### Organized Criminal Violence Event Data in Mexico

For Javier Osorio, PhD

*January 2018 - Dec. 2020*

*Graduate Research Associate,*

-Hired and trained 12 Spanish speaking students to collect and classify news articles.

-Developed a web-scraping tool that automated the collection of 150,000 articles.

-Built a text classifier using BERT, CNN, and others. Published in IEEE-IJCNN 2020.

-Project info available at: [www.ocved.mx](http://www.ocved.mx)

### A Nested Mixed-Methods Approach to Armed Non-State Actor Governance and the Rule of Law

Minerva Research Initiative Award No. 71623-LS-MRI.

*January 2018 - Dec. 2020*

*Graduate Research Associate,*

-Led an international team of 10 students in generating NLP data in Spanish and Arabic.

-Built online surveys using Qualtrics for deployment in Colombia and Afghanistan.

-Built a text classifier published in LREC-AESPEN 2020, more info at: [colombiaarmedactors.org](http://colombiaarmedactors.org)

### Sustaining Modern Infrastructure For Political And Social Event Data,

OAC-NSF Award No. 1931541.

*January 2020 - Dec. 2020*

*Graduate Research Associate,*

-Led an international team of 3 students in generating a multi-label gold standard of record.

-Scraped a news repository and performed topic modelling using LDA on collected articles.

-Used preassigned tags to build a One Vs Rest classifier and compared results to GSR.

### Modernizing Political Event Data for Big Data Social Science Research,

RIDIR-NSF Award No. 1539302.

*January 2018 - May 2019*

*Graduate Research Associate,*

-Led an international team of 5 students in developing an ontology of event data in Spanish.

-Annotated text data for NER and dependency parsing ML models using Brat annotation tool.

-Debugged UD Petrarch for integration with CoreNLP and UDPipe.

## FELLOWSHIPS & AWARDS

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<b>Russell Sage Foundation Summer Institute in Computational Social Science</b> <i>Teaching Assistant, organized at The University of Arizona</i>	2021
<b>Russell Sage Foundation Summer Institute in Computational Social Science</b> <i>Participant, organized at Duke University</i>	2020
<b>REDESDAL Travel Scholarship</b> <i>\$1,200 Travel Award</i>	2019
<b>LAPOP Travel Scholarship</b> <i>\$1,000 Travel Award, -(Co-author accepted)</i>	2019
<b>APSA Fund for Latino Scholarship</b> <i>\$500 Award</i>	2019
<b>GPSC Travel Grant</b> <i>\$500 Travel Award</i>	2019
<b>SGPP Travel Grant</b> <i>\$500 Travel Award</i>	2018, 2019, 2020
<b>SGPP Summer Fellowship</b> <i>\$2000 Award</i>	2017 & 2018
<b>Medalla Luis F. Aguilar Villanueva</b> <i>Academic distinction award for Undergraduate studies,- Universidad Autonoma de Sinaloa</i>	2015
<b>Rumbo Joven 100 Fellowship</b> <i>\$15,000 Fellowship for studying in Washington DC,- SEP, Gobierno de Mexico</i>	2014

## SPECIALIZED TRAINING

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<b>ArcGIS Workshop</b> -Learned how to do geospatial analysis using ArcGIS mapping software.	2019
<b>L<sup>A</sup>T<sub>E</sub>X Workshop</b> -Training on using L <sup>A</sup> T <sub>E</sub> X for professional papers and presentations .	2019
<b>World Bank Development Economics Workshop: Governance and the Law</b> -Training on using the World Development Report 2017 data. -Keynote lecture from Luis F. Lopez-Calva, World Bank	2017
<b>Seminar on Campaign Strategies</b> -Organized by George Washington University.	2015

## PROFESSIONAL SERVICES

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### Mentor:

- Engage with Latinx students at UArizona to discuss issues important to our community.
- Meet with potential graduate students and offer guidance on grad school applications and offers.

### Reviewer for:

- Policy Studies Journal

### Active Member:

- Institute of Electrical and Electronics Engineers (IEEE)
- IEEE Computational Intelligence Society
- Midwest Political Science Association
- American Political Science Association

## TECHNICAL STRENGTHS

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<b>Modeling and Analysis</b>	Causal Inference, NLP, Machine Learning, GIS, Network Analysis
<b>Programming</b>	R, Python, Qualtrics, STATA, SQL, ArcGIS, Perl, L <sup>A</sup> T <sub>E</sub> X