Jose Hurtado, PhD

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PROFESSIONAL PROFILE

Jose is an accomplished AI policy expert and data scientist with extensive experience in federal policy, machine learning, and AI governance. Known for his leadership in responsible AI deployment and risk management, he has driven initiatives promoting equitable, transparent, and compliant technology use. During his fellowship at the National Science Foundation (NSF), Jose led cross-functional collaborations to advance AI and data governance in alignment with federal standards. With deep expertise in analyzing large datasets and applying statistical methods, Jose has worked on long-term health outcomes and predictive analytics, including training machine learning models during his Ph.D. and utilizing Hugging Face models to build scalable, data-driven solutions. His interdisciplinary approach combines AI ethics, text mining, and science communication to address complex governance challenges, enhance decision-making processes, and foster innovation. A committed advocate for inclusivity, Jose prioritizes reducing bias, enhancing transparency, and advancing ethical practices within AI systems.

CORE COMPETENCIES

- AI
- Machine Learning
- Data Analytics
- Data Governance
- Science Policy
- Technology Policy
- Health Informatics
- Project Management
- Strategic Communication
- Stakeholder Engagement
- Ethics and Responsible AI
- Technical Expertise in Data Systems
- Training and Mentoring
- Leadership and Collaboration

RELEVANT EXPERIENCE

Science and Technology Fellow, *NSF*, Alexandria, VA — August 2022 – August 2024

- Cultivated strategic relationships with key stakeholders in AI and technology forums, significantly enhancing the program's visibility and influence within the interagency working group.
- Contributed to AI R&D within the NITRD Program's Interagency Working Group, fostering cross-agency collaboration and advancing collective research goals.
- Led the standardization of GRFP's data architecture, enhancing clarity and facilitating seamless integration with text mining tools.
- Collaborated with the Chief Information Security Officer to co-lead the GRFP data alignment initiative, successfully integrating AI-powered text analysis tools that enhanced data management systems and significantly improved document search and analysis efficiency.
- Developed and implemented strategies to diversify the reviewer pool, resulting in a 20% increase in diverse perspectives, and drafted guidelines for improved recruitment using AI Dimensions.
- Reduced NSF's review burden by 30% through automation of compliance checks, significantly improving application review efficiency.
- Conducted cross-directorate data analysis, providing critical insights that informed evidence-based decision-making and enhanced evaluation efforts.
- Developed a comprehensive onboarding strategy for Data Scientists and Analysts, providing actionable recommendations through validated reports that improved team performance.
- Supervised data requests, ensuring compliance with regulatory standards and high accuracy, resulting in timely submissions for agency and congressional inquiries and enhancing decision-making processes.
- Synthesized research findings and technical data from a university's machine learning admission algorithm into accessible formats for diverse audiences, proposed diversity-enhancing alternatives, and implemented a prototype using Hugging Face models integrated with FCC and census data to drive equitable outcomes.
- Participated in interagency meetings, providing insights on Indigenous knowledge approaches to climate justice, which led to an invitation to the LAMAT Institute's retreat, a leading institution for transforming STEM through innovative research and inclusive scientific inquiry.

Executive Producer, *Sci on the Fly Podcast,* DC — August 2023 – Sept 2024

- Directed podcast production, including interview planning, creative vision, and team support. Evaluated content pitches, monitored performance, and implemented marketing strategies to grow the audience, ensuring timely delivery of episodes.
- Hosted and produced the podcast "Conversations on AI Ethics and Policy," engaging with experts such as Dr. Ravit Dotan to discuss AI ethics and policy. This platform fostered meaningful dialogue on critical issues in AI.
- Hosted and produced the podcast "Conversations with Mixtec Codices Researcher Dr. Omar Aguilar," showcasing creative ways of using a documentary for science communication and the need for better Open Science Policy.
- Revamped Podcast branding by Spearheading the creation of a new podcast intro, featuring original music composition.

Lead Innovator/ Music Director, *Kuyayky*, Miami, FL   January 2017 – July 2022
- Led technology initiatives, including the Imanchay Quechua language learning app and Moche portrait vessel selfie matching prototype. The Imanchay app achieved over 4,000 downloads and garnered significant media coverage in the U.S. and Latin America
- Spearheaded initiative to broaden STEM participation in the Peruvian Andes by designing and executing a project from concept to delivery. This included securing microfunding, sourcing components, and collaborating with local talent to develop and deploy a contactless thermometer for a local dental office during the COVID-19 pandemic, addressing critical community health needs while fostering local innovation.
- Produced and directed Kuyayky's 2019 album, podcast, and live performances.
- Served as grant writer for the 2020 Miami-Dade Nonprofit Support Grants Program and the 2018 Miami-Dade Community Grant.
- Brought Andean dances to digital platforms through an augmented reality strategy on Instagram, Facebook, and TikTok.
- Featured by the Latin American and Caribbean Consortium of Engineering Institutions for contributions at the intersection of technology and native science.
- Collaborated with the Inter-American Bank and the Smithsonian Institution in Washington D.C. to present Kuyayk's Indian Summer Showcase Concert and lecture.

Researcher/Machine Learning Developer, *FAU,* Boca, FL   January 2014 – December 2016
- Designed and implemented machine learning models to predict hospital readmissions from discharge notes, utilizing Apache cTakes, R, and Python, to support compliance with the Hospital Readmission Reduction Program policy.
- Implemented a parallelization strategy on an HPC cluster to extract themes from unstructured text, achieving a 60% reduction in processing time.
- Coordinated partnerships with a German university to enhance research collaboration.
- Designed and deployed AI/ML models, ensuring they meet responsible and ethical standards.
- Developed models for summarizing academic abstracts using the Weka Java API and Python, improving topic discovery efficiency.
- Created optimized Python ETL scripts to extract data from multiple sources, including web services and web scraping, for comprehensive datasets.
- Engineered data transformation processes to create transactional datasets, normalizing text data through techniques like stop word removal and stemming.
- Developed Named Entity Recognition models using Python's Tweepy library and Weka's Java API.
- Generated publications advancing the state of the art in computer science, big data analytics, and decision support systems.
- Inspired collaborative publications and served as first author on innovative research findings.
- Recognized for a top poster submission, receiving commendation from European researchers for a groundbreaking project.

Developer, *Connections for Biz,* Hollywood, FL   June 2012 – October 2012
- Reverse engineered and re-documented existing .net visual basic hotel booking desktop application.
- Completed the design and implementation of shopping cart using in house business objects using MVC 3 and the Agile Software Development.
- Took a leading role making key recommendations which addressed designed flaws which hindered the system's evolvability.

Marketing Director/Owner, *Kuy Productions,* Miami, FL   December 2007 – January 2013
- Developed and executed successful marketing campaigns for events such as the Peru Negro and Eva Ayon Show, identifying target markets and leveraging local partnerships.
- Designed and implemented aggressive web campaigns to reach potential concertgoers, resulting in sold-out shows with over 2000 attendees.
- Proposed and executed various marketing and networking activities to increase awareness of the Arsht Center.

ETL Engineer/DBA, *REMAX,* Boca Raton, FL   March 2004 – December 2009
- Played a pivotal role in developing the second-most trafficked US real estate website
- Managed and maintained the Company's IDX databases, overseeing over 2.5 million online real estate listings.
- Analyzed and developed data projects to determine requirements, resources, and technology. Oversaw the training of newly acquired company employees and managers, providing comprehensive training to ensure a smooth transition from the acquired company
- Generated an annual data feed of 3.9 million records, resulting in over 10 million dollars in annual data sales revenue
- Fully automated and modernized the Expert Realty's Internet Data Exchange (IDX) system to improve efficiency and accuracy.

TEACHING EXPERIENCE

Big Data Adjunct Professor, *Saint Thomas Univ,* Miami, FL   October 2017 – May 2018
- Lecture R programming and Data Warehousing in the Master of Science Big Data Analytic program. Incorporated AWS in both classes to advance student's understanding of widely used cloud platform by having them install a cluster to test MapReduce, Hive, Flume, HDFS PySpark, and RSpark scripts.
- Lecture Computer Organization and Architecture, Lecture C++ programming
- Advised and tutored students in professional and master programs on an individual basis by request
- Provided students with instruction and hands on skills to develop their problem solving skills to prepare them for industry.

Computer Science Instructor, *FAU,* Boca, FL   January 2013– December 2014
- Lecture C++ for undergraduate students in Computer Science.
- Train new teaching instructors.
- Organized, led review sessions, and evaluated mastery in advanced pharmacokinetics, pharmaceutical biotechnology, pharmacological basis of therapeutics, and selective toxicity in professional and doctorate programs to groups of 75-100 students per semester
- Advised and tutored students in professional programs on an individual basis by request

EXTRA CURRICULAR EXPERIENCE

Text Mining Visiting Associate, *Bidtellect Laboratory,* FL   January 2016 – December 2016
- Fostered collaborations between different departments or research groups.

Founder/Associate, *Kuyayky Foundation Inc,* Miami, FL   January 2023 – Current
- Co-led, planned, and executed the inaugural STEAM conference in the Peruvian Andes, pioneering a unique event that integrated science, technology, engineering, arts, and mathematics in the region.
- Organized and hosted multiple conferences and collaborative educational research projects, recruiting scientists, industry experts, angel investors, Fulbright scholars, and students from fields such as neutrino physics, computer science, artificial intelligence, biomedical engineering, and neuroscience. This effort facilitated knowledge exchange and fostered interdisciplinary collaboration.

PhD in Computer Science
Florida Atlantic University
Dissertation Title: Text Mining and Topic Modeling for Social and Medical Decision Support
Masters in Computer Science
Florida Atlantic University
Thesis Title: Reducing Impedance Mismatch in SQL Embeddings for Object-Oriented Programming Language
Bachelors in Computer Science
Florida International University

Professional Education in Persuasive Communication   July 2023- September 2023
MIT

HONORS AND AWARDS

2024 AAAS Recognition: The AI Ethics Podcast was featured to promote AI AAAS event.
2024 Fairfax Regional Science Fair: Served as a Category Judge.
2024 Berlin Video Music Awards: Honorable Mention and Interview
2023 Invited to perform at the NSF for Hispanic Heritage Month.
2022 AAAS STPF Member Spotlight Article: "Computer Scientist Jose Hurtado Jr. Shares Andean Culture Through Technology."
2014 Dr. Daniel B. Newell & Aurel B. Newell Fellowship, Boca Raton, FL.
2015 Delores A. Auzenne Fellowship, Boca Raton, FL.
2008 Inter-American Development Bank's Youth Program: Recognized as a "Latin American Youth Leader" for cultural and philanthropic initiatives.

SELECTED PUBLICATIONS

Xingquan Zhu, Jose Hurtado, Haicheng Tao ``Localized Sampling for Hospital Re-admission Prediction with Imbalanced Sample Distributions'', In Proc. of the International Joint Conference on Neural Networks (IJCNN), Date: 15 May 2017

Jose L. Hurtado, Ankur Agarwal, and Xingquan Zhu ``Topic discovery and future trend forecasting for texts'', Journal of Big Data, 3(1) : 1-21, 2016

Jose Hurtado; Napat Taweewitchakreeya; Xingquan Zhu, ``WhoInternational Joint Conference on Neural Networks (IJCNN 2017the 15th IEEE International Conference on Information Reuse and Integration (IRI), vol., no., pp.859-862, 13-15 Aug. 2014

I Casas, Jose L Hurtado, X Zhu –" Social network privacy: Issues and measurement " Web Information Systems Engineering–WISE 2015 …, 2015

Jose Hurtado; Napat Taweewitchakreeya; Xue Kong; Xingquan Zhu, ``A Classifier Ensembling Approach for Imbalanced Social Link Prediction," in Proc. of the 12th IEEE International Conference on Machine Learning and Applications (ICMLA), vol.1, no., pp.436-439, 4-7 Dec. 2013

Jose Hurtado; Shihong Huang; Xingquan Zhu, ``Topic Discovery and Future Trend Prediction Using Association Analysis and Ensemble Forecasting," In Pro. of the 16th IEEE International Conference on Information Reuse and Integration (IRI), vol., no., pp.203-206, 13-15 Aug. 2015

Podcasts

Jose L. Hurtado, "Navigating AI Policy and Ethics with Dr. Ravit Dotan", June 20, 2024
Jose L. Hurtado, "Reclaiming Heritage as a Mixtec Scholar: A Conversation with Dr. Omar Aguilar", June 20, 20

References

James L. Moore	Assistant Director	jamoore@nsf.gov
Jong-on Hahm	Program Director	jhahm@nsf.gov