JORGE J. ORTIZ - QUANTITATIVE RESEARCHER

Associate Professor, Electrical & Computer Engineering
Rutgers University
AI & Computer Vision Lead, New York Yankees

Email: jortiz@alum.mit.edu
Web: http://jorgeortizphd.info
Phone: 617-784-6550

Quantitative Research Expertise: Mathematical modeling, statistical learning, optimization algorithms, and data-driven decision systems. Proven track record in high-stakes environments combining academic rigor with practical applications in finance-adjacent domains (professional sports analytics).

(a) Education

Ph.D. Computer Science	University of California, Berkeley	2013
M.S. Computer Science	University of California, Berkeley	2010
B.S. Computer Science	Massachusetts Institute of Technology	2003

(b) Core Quantitative Competencies

Mathematical & Statistical Methods: Advanced optimization (convex/non-convex), stochastic processes, time series analysis, Bayesian inference, Monte Carlo methods, multivariate statistics, algorithmic trading strategies.

Machine Learning & AI: Deep learning architectures, reinforcement learning, ensemble methods, feature engineering, model validation, hyperparameter optimization, production ML systems.

Computational & Data Analysis: Large-scale distributed processing, high-performance computing, numerical methods, real-time analytics, signal processing. Proficient in Python, R, MATLAB, C/C++, SQL.

(c) Professional Experience

2019–present **AI & Computer Vision Lead, New York Yankees**
Lead quantitative analyst developing predictive models and optimization algorithms for competitive advantage in professional sports

2025–present **Associate Professor (Tenured), Rutgers University**
Department of Electrical and Computer Engineering

2018–2025 **Assistant Professor, Rutgers University**
Director, Sensing and Reasoning (SnR) Lab

2013–2018 **Research Staff Member, IBM Research**
Machine learning algorithms and large-scale analytics systems

2013 **Senior Software Engineer, Spire Global**
Mathematical models and algorithms for satellite data processing

2003–2007 **Software Engineer, Oracle Corporation**
Database optimization and performance analytics

(d) Key Research Areas & Impact

- **Machine Learning & Sensing:** Developed algorithms for multimodal sensor fusion, human activity recognition, and real-time analytics systems.
- **Large-Scale Data Systems:** Led research in distributed computing, IoT data processing, and intelligent building systems.
- **Mathematical Modeling:** Applied statistical methods and optimization techniques to human behavior prediction and sensing applications.
- **Sports Analytics:** Currently leading AI and computer vision initiatives for professional baseball operations at the New York Yankees.

(e) Research Impact & Recognition

- **Publications:** Peer-reviewed papers in top-tier conferences (IPSN, BuildSys, ICISSP, SenSys)
- **Awards:** Best Paper Award (ICISSP 2018), Best Paper Finalist (multiple conferences)
- **Patents:** 12+ issued patents in machine learning and data systems

- **Funding:** Significant research funding from NSF, NIH, and industry partnerships
- **Leadership:** Supervised 3 Ph.D. graduates, multiple graduate students

(f) Selected Grants & Funding

- **NSF IUCRC Phase I:** Center on Responsible Artificial Intelligence and Governance (CRAIG). Rutgers Site PI ($302K, 2025-2030)
- **NSF AI Ready Planning Grant:** STAIRWAI to COSMOS: Sensor-enabled Testbed for Wireless+AI. Co-PI ($200K, 2025-2027)
- **NSF ReDDDoT Phase 2:** Leveraging Urban AI as a Communal Tool for Connection and Exchange in Harlem. Co-PI ($1.45M)
- **NSF Engineering Research Center:** The Center for Smart Streetscapes. Rutgers Site PI ($2.3M Rutgers portion of $26M total)
- **NIH Grant:** Context-Aware Multimodal Ecological Research and Assessment (CAMERA) Platform. Co-Investigator ($1.08M)

(g) Key Publications & Awards

- Best Paper Award, ICISSP 2018 (21% acceptance rate)
- Best Paper Finalist, BuildSys 2015 (23% acceptance rate, 1st highest review score)
- Best Paper Finalist, BuildSys 2015 (23% acceptance rate, 2nd highest review score)
- Publications in IPSN, SenSys, BuildSys, and other top-tier venues
- Keynote Speaker, Workshop on Smart and Connected Indoor Environments (SECON 2017)

(h) Selected Invited Talks & Recognition

- JPMC Hispanic Heritage Month Panel on The Impact of Latinos and Technology (October 2024)
- Sports and AI Symposium, Columbia University (September 2024)
- I-SENSE Distinguished Seminar Series, Florida Atlantic University (April 2024)
- HCII Seminar Series, Carnegie Mellon University (November 2023)
- Qualcomm Innovation Fellowship Finalist (2011)
- NSF Graduate Fellowship Honorable Mention (2008)

(i) Ph.D. Students & Mentorship

- **Graduated:** Tahiya Chowdhury (2022), Murtadha Aldeer (2023), Tong Wu (2023)
- **Research Focus:** Data-driven human activity sensing, machine learning for behavior understanding, human-agent interaction
- **Current:** Multiple graduate students in sensing systems and AI applications

(j) Technical Leadership & Service

- **Conference Leadership:** General Chair BuildSys 2022, Steering Committee Chair BuildSys 2024-25, TPC Chair BuildSys 2020
- **Program Committees:** ICLR 2025, Sensys 2025, Buildsys 2025, ACM MobiHoc 2025, IPSN (multiple years)
- **Workshop Organization:** Co-Chair Cyber-Physical-Human Systems (CPHS) at CPS Week 2022, NeurIPS 2021 DLDE Workshop
- **Industry Collaboration:** Judge Newsweek AI Impact Awards 2025, Technical advisor roles
- **Editorial:** Reviewer for NeurIPS, ICLR, IPSN, SenSys, BuildSys, and other top venues

(k) Selected Patents & Intellectual Property

- **12+ Issued Patents** in machine learning algorithms, IoT systems, and data analytics
- **Recent Patents:** Recommendations based on private data using dynamically deployed pre-filter (2023)

- **Core Areas:** Name-based IoT data discovery, cloud computing extensions, monitoring and management of SaaS
- **Applications:** Predictive modeling, real-time analytics, distributed computing methodologies