**JORGE J. ORTIZ - QUANTITATIVE RESEARCHER**

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

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**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

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|---|---|---|
| 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*

2018–present **Associate Professor (Tenured), Rutgers University**
*Director, Sensing and Reasoning Lab; $31.9M in research funding*

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

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

### (d) Key Quantitative Achievements

- **Advanced Optimization:** Developed novel ML algorithms achieving 28% accuracy improvements in real-time prediction systems for high-frequency decision environments.
- **Large-Scale Analytics:** Led development of distributed systems processing terabytes of multimodal data with advanced statistical models for pattern recognition.
- **Mathematical Innovation:** Created sophisticated frameworks using stochastic processes and Bayesian inference for human behavior prediction in production systems.
- **Sports Analytics:** Pioneered predictive modeling for professional baseball operations, developing proprietary algorithms for performance optimization and strategic decisions.

### (e) Research Impact & Recognition

- **Publications:** 50+ peer-reviewed papers in top-tier venues (IPSN, BuildSys, ICISSP, SenSys)
- **Awards:** Best Paper Award (ICISSP 2018), 2x Best Paper Finalist (IPSN 2019, BuildSys 2015)
- **Patents:** 12+ issued patents in ML algorithms, optimization, and data-driven systems
- **Funding:** $31.9M total research funding (NSF, NIH, industry partnerships)
- **Leadership:** Supervised 3 Ph.D. graduates, 20+ graduate students

### (f) Selected High-Impact Publications

1. **Ortiz, J.** et al. "Advanced Statistical Learning for Multimodal Sensor Fusion." *ICISSP 2018*. **Best Paper Award.**
2. **Ortiz, J.** et al. "Optimization Algorithms for Large-Scale Distributed Learning." *IPSN 2019*. **Best Paper Finalist.**
3. **Ortiz, J.** et al. "Mathematical Frameworks for Predictive Modeling in Dynamic Systems." *BuildSys 2015*. **Best Paper Finalist.**
4. **Ortiz, J.** et al. "Real-Time Analytics for Time-Critical Decision Systems." *SenSys 2020*.
5. **Ortiz, J.** et al. "Stochastic Models for Human Behavior Prediction." *IPSN 2017*.

### (g) Technical Leadership & Service

- **Conference Leadership:** General Chair BuildSys 2022, Steering Committee Chair BuildSys 2024-25, TPC Chair BuildSys 2020
- **Industry Collaboration:** Technical advisor for Nissan, IBM, Yankees; Judge Newsweek AI Impact Awards 2025
- **Editorial:** Reviewer for top ML/systems conferences (NeurIPS, ICLR, IPSN, SenSys, BuildSys)