

Matias Quintana

PH.D. CANDIDATE · BUILDING TECHNOLOGY

38 College Avenue East, South Tower, #16-254D, Singapore 138601

☎ (+1) 412 330 0984, (+65) 9246 5603 | ✉ matias@u.nus.edu | 🏠 www.matiasquintana.com | 📷 matqr | 📺 matiasqr | 🐦 @_matqr

Education

National University of Singapore

PH.D. STUDENT AT THE SCHOOL OF DESIGN AND ENVIRONMENT, NUS RESEARCH SCHOLAR FELLOWSHIP

Singapore

2018 - Present

Carnegie Mellon University

MASTER OF INFORMATION SYSTEMS MANAGEMENT, GRADUATE ADMISSION SCHOLARSHIP

Pittsburgh, PA

2015 - 2016

Pontifical Catholic University of Peru

BACHELOR OF SCIENCE, ELECTRONIC ENGINEERING

Lima, Peru

2009 - 2014

Research Experience

Department of Building - School of Design and Environment, National University of Singapore

GRADUATE RESEARCH ASSISTANT, BUILDING AND URBAN DATA SCIENCE LABORATORY (**BUDS Lab**), SINGAPORE-BERKELEY BUILDING

Singapore

EFFICIENCY AND SUSTAINABILITY IN THE TROPICS 2 (**SINBerBEST2**)

August. 2018 - Present

- Conducted field studies with wearable technology for health and thermal comfort monitoring
- Analyzed global portfolio of building electricity consumption for anomaly detection, forecasting, and missing data imputation
- Organized and maintained laboratory computational resources used for scientific research

Civil and Environmental Engineering Department, Carnegie Mellon University

GRADUATE RESEARCH ASSISTANT, INTELLIGENT INFRASTRUCTURE RESEARCH LAB (INFERLAB)

Pittsburgh, PA

Apr. 2017 - Jun. 2018

- Designed, produced, and programmed an AC waveform power meter board based on an Atmega328p for the Raspberry Pi
- Collaborated in Department of Energy funded project regarding Sensing and Control for Commercial Building Energy Efficiency and Occupant Comfort
- Designed and implemented a data preparation and evaluation framework with Bosch U.S. research scientists for RGBD building occupancy data

Professional Experience

VIT Initiative, LLC.

FIRMWARE & MOBILE DEVELOPER

Pittsburgh, PA

Dec. 2017 - Jun. 2018

- Developed data collection pipeline for Internet of Things (IoT) device, mobile devices, and web servers
- Designed and developed mobile application functionality and User Interface (UI) for IoT sensor and web server interaction
- Assembled, tested, and performed demonstration of fully finalized commercial product on clients' site and funding events

Banking Commission

INTERN, TECHNOLOGY CONSULTANT

Majuro, Republic of Marshall Islands

May 2016 - Jul. 2016

- Assessed current state of technology infrastructure and information management and provided recommendations
- Designed, proposed, and implemented data collection and analysis solution for the Financial Intelligence Division
- Elaborated comprehensive **final report** with detailed description of the project and further recommendations

Teaching & Mentoring Experience

School of Design and Environment - National University of Singapore

GRADUATE RESEARCH STUDENT

2018 - Present

- Mentored **7** undergraduate (Project and Facilities Management) and **1** graduate students (Computer Science) in their thesis
- Designed and implemented quizzes and programming assignments for **Data Science for Construction Architecture and Engineering**
- Held office hours and taught laboratory/tutorials sessions for students (Module PF1103: Digital Construction)

Heinz College - Carnegie Mellon University

GRADUATE RESEARCH STUDENT

2016

- Held office hours and laboratory sessions to help students with assignments and class' concepts (Module 95-703: Database Management)
- Suggested improvements on previous assignments and proposed alternative solutions
- Designed new database for future homeworks

Selected Publications

2020	Balancing thermal comfort datasets: We GAN, but should we? , Matias Quintana, Stefano Schiavon, Kwok Wai Tham, and Clayton Miller. In Proceedings of the 7th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (BuildSys '20), DOI	New York City, NY, USA
2020	Humans-as-a-Sensor for Buildings: Intensive Longitudinal Indoor Comfort Models , Prageeth Jayathissa, Matias Quintana, Mahmoud Abdelrahman, and Clayton Miller. Buildings, 10(174), 1-23, DOI	-
2019	Islands of misfit buildings: Detecting uncharacteristic electricity use behavior using load shape clustering , Matias Quintana, Pandarasamy Arjunan, and Clayton Miller. Building Simulation, DOI	-
2019	OccuTherm: Occupant Thermal Comfort Inference using Body Shape Information , Jonathan Francis, Matias Quintana, Nadine Von Frankenberg, and Mario Bergés. In Proceedings of the 6th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (BuildSys '19), DOI	New York City, NY, USA
2019	Is your clock-face cozie? A smartwatch methodology for the in-situ collection of occupant comfort data , Prageeth Jayathissa, Matias Quintana, Tapeesh Sood, Negin Narzarian, and Clayton Miller. Climate Resilient Buildings - Energy Efficiency & Renewables in the Digital Era, CISBAT2019	Lausanne, Switzerland

University & Public Engagements

Office of Student Affairs, National University of Singapore

RESIDENT ASSISTANT

Jun. 2020 - Present

- Served as Secretary and led the coordination with university representatives
- Designed and implemented an information and resources digital structure
- Organised social and professional development events for students living on campus

ASHRAE Student Branch, National University of Singapore

SECRETARY

Feb. 2020 - Present

- Organised company visits for members and secondary and univeristy students
- Represented the Singapore student chapter in international ASHRAE events
- Collaborated with industry partners for events and internship opportunities for current student members

Building Research Students Network (BRSnet), School of Design and Environment, National University of Singapore

PRESIDENT, FORMER TREASURER

Aug. 2019 - Present

- Elaborated budget for year-long events regarding incoming and existing research students at the deparment
- Coordinated workshops and resarch talks for students
- Proposed and implemented a new Student Lounge for graduate students

Internet of Things Club, H. John Heinz III College, Carnegie Mellon University

CO-FOUNDER AND TECHNICAL DIRECTOR

Jun. 2016 - Dec. 2016

- Prepared projects for different laboratories and workshops sessions held by the club and gave technical training
- Designed and built PCBs for the club's hardware resources
- Established partnership with Dell's IoT Solutions division and invited to attend the DellEMC World 2016 conference

Latino Graduate Student Association (LGSA), Carnegie Mellon University

PRESIDENT

Dec. 2015 - Dec. 2016

- Organized social and academic events for the Latino Community on campus
- Represented the Latino Community at Minority Leadership metings with the Provost and Associate Deans
- Raised funds and created awareness for Latino local charities and initiatives through traditional cooking events

Services

2021	8th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation , OC - Sponsorship Co-Chair
2021	3rd International Workshop on Applied Machine Learning for Intelligent Energy Systems (AMLIES) , TPC
2021	eSim 2020 Building simulation meets building data, IBPSA Canada , Reviewer
2020	18th ACM Conference on Embedded Networked Sensor Systems (SenSys 2020) and 7th ACM International Conference on Systems for Energy-Efficient Built Environments (BuildSys 2020) , Student Volunteer
2020	7th ACM International Conference on Systems for Energy-Efficient Built Environments (BuildSys 2020) , Assistant Reviewer
2020	11th ACM International Conference on Future Energy Systems (e-Energy 2020) , Assistant Reviewer
2020	Applied Energy Journal , Assistant Reviewer
2020	Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) , Reviewer
2020	2nd International Workshop on Applied Machine Learning for Intelligent Energy Systems (AMLIES) , TPC

Skills

Programming Languages	Python, Java, SQL, R, C, C++
Languages	Spanish: Native, English: Proficient, Chinese: Basic , French: Basic