Matias **Quintana**

Ph.D. Candidate · Building Technology

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Education ────────────────────────────────

National University of Singapore   *Singapore*

Ph.D. Student at the College of Design and Engineering, NUS Research Scholar fellowship   *2018 - Present*

Carnegie Mellon University   *Pittsburgh, PA*

Master of Information Systems Management, Graduate Admission Scholarship   *2015 - 2016*

Pontifical Catholic University of Peru   *Lima, Peru*

Bachelor of Science, Electronic Engineering   *2009 - 2014*

Research Experience ────────────────────────

College of Design and Engineering, National University of Singapore   *Singapore*

Graduate Research Assistant, Building and Urban Data Science Laboratory (**BUDS Lab**), Singapore-Berkeley Building
Efficiency and Sustainability in the Tropics 2 (**SinBerBEST2**)   *August. 2018 - Present*

- Conducted field studies with wearable technology for health and thermal comfort monitoring
- Performed applied unsupervised and semi-supervised learning research on a global portfolio of building electricity consumption
- Organized and maintained laboratory computational resources used for scientific research

Civil and Environmental Engineering Dept., Carnegie Mellon University   *Pittsburgh, PA*

Graduate Research Assistant, Intelligent Insfrastructure Research Lab (INFERLab)   *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.   *Pittsburgh, PA*

Firmware & Mobile Developer   *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 demostration of fully finalized commercial product on clients' site and funding events

Banking Commission   *Majuro, Republic of Marshall Islands*

Intern, Technology Consultant   *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 ───────────────

College of Design and Engineering - 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
- Main collaborator and content creator for MOOC **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	**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 the Senior Deputy President and Provost, National University of Singapore

MEMBER OF THE NUS BOARD OF DISCIPLINE   *Jul. 2021 - Present*
- Dealt with circumstances calling for disciplinary actions within campus.
- Exercised disciplinary powers in accordance with NUS Statutes and Regulations.

Office of Student Affairs, National University of Singapore

RESIDENT ASSISTANT   *Jun. 2020 - Present*
- Served as Secretary and led the coordination between university and students representatives
- Designed and implemented an information and digital resources infrastructure
- Organised social and professional development events for students living on campus

ASHRAE Student Branch, National University of Singapore

SECRETARY   *Feb. 2020 - May 2021*
- 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), College of Design and Engineering, 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	**Workshop on Tackling Climate Change with Machine Learning at the Conference on Neural Information Processing Systems (NeurIPS)**, PC
2021	**Ambient Intelligence and Humanized Computing Journal**, Reviewer
2021	**Building and Environment Journal**, Reviewer
2021	**8th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (BuildSys 2021)**, Assistant Reviewer
2021	**8th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (BuildSys 2021)**, OC - Sponsorship Co-Chair
2021	**Workshop on Tackling Climate Change with Machine Learning at the International Conference on Machine Learning (ICML) 2021**, PC
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) Journal**, 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