Matias Quintana - CV

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Work and Research Experience

- **College of Design and Engineering, National University of Singapore** — Singapore, SG
  *Graduate Research Assistant (**BUDSLab**, **SinBerBEST2**)* — *08/2018 – Present*
  - **Field experiments**: Conducted field studies with wearable technology for health and thermal comfort monitoring.
  - **Data Science**: Performed applied unsupervised and semisupervised learning research on a global portfolio of building electricity consumption.
  - **Scientific Computation**: Organized and maintained laboratory computational resources used for scientific research.
- **Civil and Environmental Engineering Dept., Carnegie Mellon University** — Pittsburgh, US
  Graduate Research Assistant, Intelligent Insfrastructure Research Lab (INFERLab) — *04/2017 – 06/2018*
  - **Hardware**: Designed, produced, and programmed an AC waveform power meter board based on an Atmega328p for the Raspberry Pi.
  - **Industrial research project**: Collaborated in Department of Energy funded project regarding Sensing and Control for Commercial Building Energy Efficiency and Occupant Comfort.
  - **Data Science**: Designed and implemented a data preparation and evaluation framework with Bosch U.S. research scientists for RGBD building occupancy data.
- **VIT Initiative, LLC.** — Pittsburgh, US
  Firmware & Mobile Developer — *12/2017 – 06/2018*
  - **Data Science**: Developed data collection pipeline for Internet of Things (IoT) device, mobile devices, and web servers.
  - **Software**: Designed and developed mobile application functionality and User Interface (UI) for IoT sensor and web server interaction.
  - **Product development**: Assembled, tested, and performed demostration of fully finalized commercial product on clients' site and funding events.
- **Banking Commission of the Republic of Marshall Islands** — Majuro, MH
  Intern, Technology Consultant — *05/2016 – 07/2016*
  - **Consulting**: Assessed current state of technology infrastructure and information management and provided recommendations (comprehensive **final report**)
  - **Software**: Designed, proposed, and implemented data collection and analysis solution for the Financial Intelligence Division.

Teaching & Mentoring Experience

- **College of Design and Engineering - National University of Singapore** — Singapore, SG
  Teaching assistant — *08/2020 – Present*
  - **Mentoring**: Mentored **7** undergraduate (Project and Facilities Management) and **1** graduate student (Computer Science) in their thesis
  - **Online teaching**: Main collaborator and content creator for MOOC **Data Science for Construction Architecture and Engineering**
  - **Courses PF1103 - Digital Construction, PF3211 - AI Applications for the Built Environment, BPS5229 - Data Science for the Built Environment** : Held office hours and taught hands-on sessions.
- **Heinz College - Carnegie Mellon University** — Pittsburgh, PA
  Teaching Assistant — *2016*
  - **95-703: Database Management**: Held office hours and laboratory sessions to help students with assignments and class' concepts, improved assignments, and designed new homeworks

Education

- **Natinal University of Singapore - College of Design and Engineering** — Singapore, SG
  PhD Candidate — *2018 - Present*
- **Carnegie Mellon University** — Pittsburgh, PA
  Master in Information Systems Management — *2015 - 2016*
- **Pontifical Catholic University of Peru** — Peru, PE
  Bachelor in Electronic Engineering — *2009 - 2014*

Selected Publications

- **Journal and conferences publications**
  - **Quintana, M.**, Schiavon, S., Tham, K. W., & Miller, C. (2020). Balancing thermal comfort datasets: We GAN, but should we? In Proceedings of the 7th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (pp. 120–129). Virtual Event, Japan. https://doi.org/10.1145/3408308.3427612
  - Jayathissa, P., **Quintana, M.**, Abdelrahman, M., & Miller, C. (2020). Humans-as-a-sensor for buildings: Intensive longitudinal indoor comfort models. Buildings, 10(174), 1–23. https://doi.org/10.3390/buildings10100174
  - Francis, J., **Quintana, M.**, Frankenberg, N. Von, Munir, S., & Bergés, M. (2019). OccuTherm : Occupant Thermal Comfort Inference using Body Shape Information. In BuildSys '19 Proceedings of the 6th ACM International Conference on Systems for Energy-Efficient Built Environments]. New York, NY, USA. https://doi.org/10.1145/3360322.3360858
  - Jayathissa, P., **Quintana, M.**, Sood, T., Narzarian, N., & Miller, C. (2019). Is your clock-face cozie ? A smartwatch methodology for the in-situ collection of occupant comfort data. In CISBAT2019 Climate Resilient Buildings - Energy Efficiency & Renewables in the Digital Era. Lausanne, Switzerland.
  - Please visit my **Google Scholar** or **Scopus** profile for the complete list of publications.

University & Public Engagement

- **Office of the Senior Deputy President and Provost, NUS** — Singapore, SG
  Member of the National University of Singapore (NUS) Board of Discipline — *07/2021 - Present*
- **Office of Student Affairs, NUS** — Singapore, SG
  Resident Assistant — *06/2020 - Present*
- **ASHRAE Student Branch, NUS** — Singapore, SG
  Secretary — *02/2020 - 05/2021*
- **Building Research Students Network, NUS** — Singapore, SG
  President, former treasurer — *08/2019 - Present*
- **Internet of Things Club, Carnegie Mellon University** — Pittsburgh, PA
  Co-founder and technical director — *06/2016 - 12/2016*
- **Latino Graduate Student Association, Carnegie Mellon University** — Pittsburgh, PA
  President, former treasurer — *12/2015 - 12/2016*

Services

- **Journals**
  - Ambient Intelligence and Humanized Computing - Reviewer - 2021
  - Building and Environment - Reviewer - 2021
  - Applied Energy - Assistant Reviewer - 2020
  - Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) - Reviewer - 2020
- **Conferences**
  - Workshop on Tackling Climate Change with Machine Learning at the Conference on Neural Information Processing Systems (NeurIPS) - Program Committee - 2021
  - 8th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (BuildSys 2021) - Organisation Committee, Sponshorship Co-Chair, and Assistant reviewer - 2021
  - Workshop on Tackling Climate Change with Machine Learning at the International Conference on Machine Learning (ICML) - Program Committee - 2021
  - 3rd International Workshop on Applied Machine Learning for Intelligent Energy Systems (AMLIES) - Technical Program Committee - 2021
  - eSim 2020 Building simulation meets building data, IBPSA Canada - Reviewer - 2021
  - 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 Buildings, Cities, and Transportation (BuildSys 2020) - Assistant reviewer - 2020

- 11th ACM International Conference on Future Energy Systems (e-Energy 2020) - Assistant reviewer - 2020
- 2nd International Workshop on Applied Machine Learning for Intelligent Energy Systems (AMLIES) - Technical Program Committee - 2020

Skills

- **Languages**: Spanish, English, French, Chinese
- **Programming languages**: Python, LaTeX, SQL, JAVA, C/C++