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.
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  - **Data Science**: Performed unsupervised and semisupervised learning research on a global portfolio of building electricity consumption and on field experiment datasets for thermal comfort.
  - **Hardware & Software**: 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*
  - **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.
  - **Hardware**: Designed, produced, and programmed an AC waveform power meter board based on an Atmega328p for the Raspberry Pi.

Teaching & Mentoring Experience

- **College of Design and Engineering - National University of Singapore** — Singapore, SG
  Teaching assistant — *08/2020 – Present*
  - **Mentoring**: Mentored 8 undergraduate (B.Sc. Project and Facilities Management) and 1 graduate student (M.Sc. Computer Science) in their thesis.
  - **Online teaching**: Main collaborator and content creator for MOOC **Data Science for Construction Architecture and Engineering** (**2021 edX Prize Finalist for Innovation in Online Teaching**).
  - **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*
  - **Course 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

- **National 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
  B.Sc. 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 Student Affairs, NUS** — Singapore, SG
  Resident Assistant, Secretary — *06/2020 - 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
  - ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (BuildSys) - Organisation Committee (2021), Sponshorship Co-Chair (2021), and Assistant reviewer (2020, 2021)
  - Workshop on Tackling Climate Change with Machine Learning at the International Conference on Machine Learning (ICML) - Program Committee - 2021
  - International Workshop on Applied Machine Learning for Intelligent Energy Systems (AMLIES) - Technical Program Committee (2020, 2021, 2022)
  - 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
  - 11th ACM International Conference on Future Energy Systems (e-Energy 2020) - Assistant reviewer - 2020

Skills

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