Joshua T. Dimasaka

✉ jtd33@cam.ac.uk   🔗 linkedin.com/in/dimasaka   🌐 joshuadimasaka.com

Experience

Geospatial AI and Disaster Risk (Doctoral) Researcher   **Oct. 2022 – Present**
Cambridge University Centre for Risk in the Built Environment   *Cambridge, United Kingdom*
- Conducts spatiotemporal research on large-scale disaster risk using artificial intelligence and Earth Observation data.

Helmholtz AI Researcher   **Jun. – Sep. 2024**
Earth Observation Center, German Aerospace Center   *Munich, Germany*
- Developed a novel methodology that constrains the machine-learning outputs with census information and conditional relationships from expert belief systems for mapping building exposure and physical vulnerability.

Disaster Risk Consultant   **Mar. 2022 – Aug. 2022**
Earthquakes and Megacities Initiative   *Quezon City, Philippines*
- Developed risk assessment tools using MATLAB to analyze 400,000 buildings and 3.2-million population distribution subjected to the "Big One" magnitude-7.2 earthquake caused by the Marikina West Valley Fault System.

Public Policy Graduate Researcher   **Dec. 2021 – May 2022**
John A. Blume Earthquake Engineering Center   *Stanford, CA, United States*
- Designed city-wide GIS maps and wrote MATLAB-STATA modules to calculate economic, space, and social losses of 23 cites and municipalities with 1.14 million buildings using an OpenQuake-run probabilistic hazard analysis.

Earthquake Risk and Loss Consultant   **Mar. 2021 – Mar. 2022**
Stanford Land, Buildings, and Real Estate Office, Dr. Bendimerad   *Stanford, CA, United States*
- Reproduced the old Fortran executable program using MATLAB and developed a geospatial building information database for the client's property management office using QGIS and MS Excel Spreadsheet.
- Analyzed the financial losses and business interruption of 750 education, real-estate, and residential buildings when subjected to large earthquakes (up to magnitude 7.6) and designed a Tableau dashboard for stakeholders' use.

Structures and Natural Hazards Researcher   **Jun. 2021 – Sep. 2021**
FM Global, Engineering and Research Group   *Norwood, MA, United States*
- Improved the firm's library of seismic design hazard and maps by more than 246%, starting with 130 and ending with 320 maps (or 190 new maps) from over 130 countries and territories.

Geospatial and Machine Learning Graduate Researcher   **Jun. 2020 – Jun. 2021**
Stanford Structures as Sensors Research Group   *Stanford, CA, United States*
- Wrote MATLAB modules to apply Bayesian causal inference algorithm that uses satellite imagery signals to improve the landslide, liquefaction, and building damage models for the official earthquake loss estimation of the entire US.

Structural Engineer   **Jul. 2018 – Jul. 2019**
Arup, Buildings Department   *Pasig City, Philippines*
- Liquefaction susceptibility assessment and soil-structure analysis of a three-tower building in a reclamation area.
- Performance-based design peer review of the foundation of two buildings with 41 and 43 floors and four basement levels.
- Code-based design peer reviews of three tall building projects with 43-49 floors and four basements each.
- Quantity estimation and structural design of four towers with 41-51 floors.
- Post-earthquake and safety assessment of a tall building with 50 floors.

Education

University of Cambridge   **Oct. 2022 – Sep. 2026**
MRes+PhD in Artificial Intelligence for Environmental Risks, UKRI-CDT Studentship   *Cambridge, United Kingdom*

Stanford University   **Sep. 2019 – Jun. 2022**
MSc in Civil and Environmental Engineering, MA in Public Policy, Knight-Hennessy Scholar   *California, United States*

Stanford Graduate School of Business   **Jan. 2021 – Mar. 2021**
Executive Education, Ignite Certification on Entrepreneurship and Innovation   *California, United States*

University of the Philippines   **Jun. 2013 – Jan. 2018**
BSc in Civil Engineering, magna cum laude, RSFI & DOST Scholar, Rank 1/341   *Laguna, Philippines*