

JOSHUA T. DIMASAKA

✉ jtd33@cam.ac.uk [in linkedin.com/in/dimasaka](https://www.linkedin.com/in/dimasaka) [globe joshuadimasaka.com](https://www.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. 2024 – 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 cities 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