Joshua T. Dimasaka

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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, DOST Scholar	*Laguna, Philippines*

Experience

Earthquakes and Megacities Initiative　　Mar. 2022 – Aug. 2022
Urban Resilience Fellow　　*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.

John A. Blume Earthquake Engineering Center　　Dec. 2021 – May 2022
Public Policy - Graduate Researcher　　*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.

Stanford Land, Buildings, and Real Estate Office　　Mar. 2021 – Mar. 2022
Earthquake Risk and Loss Consulting Assistant to 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.

FM Global, Engineering and Research Group　　Jun. 2021 – Sep. 2021
Structures and Natural Hazards – Research Intern　　*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.

Stanford Structures as Sensors Research Group　　Jun. 2020 – Jun. 2021
Geospatial and Machine Learning – Graduate Research Assistant　　*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.

Arup, Buildings Department　　Jul. 2018 – Jul. 2019
Graduate Structural Design Engineer　　*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.

Makati Development Corporation　　May 2017 – Jul. 2017
Planning and Control Engineering Intern　　*Taguig City, Philippines*
- Improved the operations of the Project Planning and Control Office by designing an Excel-VBA program to monitor the construction deliverables of over 100 national projects with real-time technical report status.

Technical Skills

Languages: R, Python, MATLAB, STATA, VB.Net   **Geospatial Modeling**: QGIS, ArcGIS, Tableau
Building Modeling: AutoCAD, REVIT, Dynamo, Bluebeam, SimaPro, ETABS, SAFE, Oasys GSA, STAAD, Robot