

JOSHUA DIMASAKA

Applied AI professional with technical backgrounds in scientific research, data science, regional climate & disaster risk modelling, civil & structural engineering, public policy, entrepreneurship, and innovation

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PROFESSIONAL EXPERIENCE

Visiting Researcher - Digital GreenTalents Award, Digitalization & Sustainability <i>German Aerospace Center, Earth Observation Center, German Remote Sensing Data Center</i>	Apr - Jun 2026 Weßling, DE
- Led the proposal for an open benchmark dataset combining building-change detection and vulnerability attribution, leveraging geospatial foundation-model satellite embeddings to support regional risk-analysis workflows.	
Visiting Researcher - Helmholtz Award, Applied Data & Information Sciences <i>German Aerospace Center, Earth Observation Center, German Remote Sensing Data Center</i>	Jul - Sep 2024 Weßling, DE
- Created a constrained machine learning methodology using census data & expert conditional relationships to enhance building-exposure and vulnerability mapping; first-authored paper under review in the <i>ISPRS Photogrammetry & Remote Sensing</i> journal.	
Postgraduate Doctoral Researcher - UK Research & Innovation Award <i>UK Centre for Doctoral Training in AI for Environmental Risk</i>	Oct 2022 - Sep 2026 Cambridge, UK
- Established an academia-industry collaboration with an international scientific NGO; appointed as Urban Resilience Fellow.	
- Developed a spatiotemporal model combining graph deep learning and state-space modeling to enhance dynamic exposure and vulnerability mapping; first-authored paper selected for oral at <i>AAAI AI for Social Impact Track</i> (24% acceptance, 167/693).	
- Formulated a weakly supervised transition matrix modeling regional dynamics in disaster-affected areas; first-authored paper under review in <i>Progress in Disaster Science</i> ; Best Overall Paper, <i>Int'l Disaster & Risk Conference</i> .	
- Produced an open-source dataset METEOR 2.5D monitoring the physical vulnerability in 46 UN-recognized Least Developed Countries; selected for 3-min presentation at <i>AAAI Empowering Global South AI Community Activity</i> (60% acceptance, 64/107).	
- Introduced a probabilistic regional metric for building typology estimation task; first-authored paper for poster at <i>ICLR ML for Remote Sensing Workshop</i> (60% acceptance, 43/71).	
- Improved exposure analytics for settlement-road systems from climate-influenced disasters using graph representation of built environment data; first-authored paper published in <i>Environmental Research Letters</i> ; Outstanding Presentation Award, <i>AGU 2023</i> .	
- Volunteered for remote sensing data analytics and team coordination on impact assessment efforts in the aftermath of 2025 M7.7 Myanmar-Thailand and 2023 M7.8 Turkey-Syria earthquakes.	
Disaster Risk Consultant <i>Earthquakes & Megacities Initiative and Quezon City Government</i>	Mar - Aug 2022 Quezon City, PH
- Developed risk assessment tools to analyze 400,000 buildings and 3.2-million population for the 'Big One' M7.2 earthquake.	
Earthquake Risk and Loss Consultant <i>Stanford University, Land, Buildings, and Real Estate Office</i>	Mar 2021 - Mar 2022 Stanford, CA, US
- Reproduced an 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 & Natural Hazards Researcher <i>FM Global, Engineering and Research Group</i>	Jun - Sep 2021 Norwood, MA, US
- 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 & Machine Learning Graduate Researcher <i>Stanford University, Structures as Sensors Research Group</i>	Jun 2020 - Jun 2021 Stanford, CA, US
- Programmed the application of a new Bayesian causal inference algorithm that uses satellite imagery signals to improve the landslide, liquefaction, and building damage models of the entire US; Co-authored a published paper in <i>Nature Communications</i> .	

EDUCATION

University of Cambridge <i>PhD Artificial Intelligence for the study of Environmental Risks</i>	2023-2026
<i>MRes Environmental Data Science</i>	2022-2023
Stanford University <i>MA Public Policy, MS Civil & Environmental Engineering, Knight-Hennessy Graduate Fellow</i>	2019-2022
<i>Stanford GSB Executive Education, Ignite Certificate, Entrepreneurship & Innovation</i>	2021
University of the Philippines <i>BS Civil Engineering, magna cum laude, one-semester early, college valedictorian, rank 1/341</i>	2013-2018