

NATHAN GIRMAY

Stanford, California 94305 • ngirmay3@stanford.edu • linkedin.com/in/nathangirmay • www.nathangirmay.com
U.S. Citizen

EDUCATION

STANFORD UNIVERSITY, School of Engineering

Stanford, California

Doctor of Philosophy in Civil Engineering

June 2027

- Research Focus: Earthquake Engineering, Seismic Hazard, Disaster Resilience
- Advisor: Eduardo Miranda
- Awards: EDGE Doctoral Fellowship

Master of Science in Civil Engineering

September 2023

- Concentration: Structural Engineering, Earthquake Engineering
- Awards: Graduate Course and Research Assistantship, Dean's Graduate Student Council Exceptional Master's Student Award

GEORGIA INSTITUTE OF TECHNOLOGY, College of Engineering

Atlanta, Georgia

Bachelor of Science in Civil Engineering

December 2019

- Minor: Engineering & Business through the Steven A. Denning Technology & Management Program
- Concentration: Structural Systems
- Awards: Sustained Gold Tower Award, Holland-Roller Endowment Fund Scholarship, Boeing T&M Scholarship

EXPERIENCE

STANFORD UNIVERSITY

Stanford, California

Graduate Course and Research Assistant

September 2021 – Present

Stanford University is a prestigious private research university in Stanford, California.

- Prepare, instruct, and assess undergraduate geotechnical lab sessions focusing on soil characteristics and behavior
- Assist in teaching the undergraduate structural design class with an emphasis on reinforced concrete and steel design
- Assist in teaching the undergraduate structural analysis class
- Perform computational research in earthquake engineering, focusing on ground motion directionality, resulting in two publications

THORNTON TOMASETTI

San Francisco, California

Engineer Intern, Forensics

June – August 2022

Thornton Tomasetti is a global engineering consulting firm that applies scientific and engineering principles to solve global problems.

- Assisted in analysis and report writing for multiple forensic investigations
- Analyzed and provided modifications to a building with a timber diaphragm in support of an existing structure retrofit
- Led research on the design and analysis of nonstructural components and published and presented findings at a conference as first author

ENERCON SERVICES, INC / ENERCON FEDERAL SERVICES, INC

Atlanta, Georgia

Structural Engineer

January 2020 – June 2021

Enercon Services is an engineering, environmental, technical, and management services firm providing a broad range of services.

- Modeled, analyzed, and modified existing structures ranging from equipment supports to buildings within nuclear facilities
- Designed new miscellaneous steel structures, concrete foundations, and anchorage mechanisms
- Assisted in the development of specifications for the replacement of jib and polar cranes within containment buildings of nuclear plants

Structural Engineering Intern

May – December 2019

- Qualified non-safety related support frames and corresponding baseplates using steel design codes
- Produced models of new and existing steel structures using GTSTRUDL

GEORGIA INSTITUTE OF TECHNOLOGY

Atlanta, Georgia

Undergraduate Research Assistant

January – May 2019

Georgia Institute of Technology is a public research university in Atlanta, Georgia.

- Assisted with the experimental setup of an investigation on the residual capacity of structural bolts when subjected to blast loads
- Developed MATLAB codes that outputted the expected stress-strain behavior of bolts subjected to shear unloading and reloading

THE BOEING COMPANY

Atlanta, Georgia

Denning T&M Program Capstone Project Consultant

September 2018 – May 2019

Boeing is a multinational company that designs and manufactures aerospace products.

- Investigated ways to improve the manufacturing process of composite honeycomb interior panels used in Boeing 787 aircrafts
- Developed modifications to existing computer numerical control machines to improve the efficiency of the manufacturing process

BENNETT & PLESS

Atlanta, Georgia

Structural Engineering Intern

May – July 2018

Bennett & Pless provides structural solutions ranging from assessments of existing structures to complete design and consulting.

- Drafted structural plans and details using outcomes from several analysis software programs including RAM and RISA
- Reviewed shop drawings for structural and miscellaneous steel, concrete mix design, and rebar
- Determined lateral loading, including wind and seismic, for a structure

BALFOUR BEATTY INFRASTRUCTURE

Wilmington, North Carolina

Estimating Intern / Civil Engineering

May – August 2017

Balfour Beatty is one of the largest multinational infrastructure groups with expertise in various construction domains and investments.

- Completed takeoffs of structural and non-structural elements with the purpose of accurately quantifying design plans
- Worked on estimating multi-million-dollar projects
- Communicated regularly with sub-contractors and vendors to receive quotes

JUKAS CONSTRUCTION LTD

Kampala, Uganda

Civil Engineering Intern

July – August 2016

Jukas is a real estate developer that focuses on residential villas.

- Drafted structural and architectural drawings for residential housing
- Created electrical installation drafts

CANNANZE CONSTRUCTION LTD

Kampala, Uganda

Civil Engineering Intern

May – June 2016

Construction company operating in more than three East-African countries that deals in building residential housing, hotels, and public infrastructures such as roads.

- Supervised the implementation of structural drawing details and trained in leading a small construction crew
- Shadowed senior site engineer

ACTIVITIES / LEADERSHIP

STANFORD UNIVERSITY

Stanford, California

Member / Earthquake Engineering Research Institute (EERI)

September 2021 – Present

- Attend seminars, workshops, and conferences to understand earthquake risk and engineering

Member / Stanford Urban Resilience Initiative (SURI)

September 2021 – Present

- Participate in journal clubs, seminars, and networking events to learn about resilience science and engineering from leaders in academia and the industry

ENERCON SERVICES, INC / ENERCON FEDERAL SERVICES, INC

Atlanta, Georgia

Member / College Ambassadors

August 2020 – June 2021

- Represented company at college recruiting fairs and sought ways to reach out to student communities

Member / Inclusivity, Diversity, Equity, and Awareness (IDEA) Team

June 2020 – June 2021

- Aided in the development of an inclusive environment within the company by providing guidance and resources for equitable mentoring, coaching, and encouraging hiring practices that increase exposure to diverse groups

Member / American Institute of Steel Construction

February 2020 – June 2021

- Attended webinars and conferences to expand design and analysis skills

GEORGIA INSTITUTE OF TECHNOLOGY

Atlanta, Georgia

Technical Committee, Director of Internal Development / Engineers Without Borders

September 2015 – December 2019

- Prepared technical documents and CAD drafts for a water supply program for a village in Uganda
- Led project meetings, planned semester goals, and managed internal affairs of the Uganda Project

Member / American Society of Civil Engineers

January 2017 – December 2019

- Attended meetings, participated in intramural sports, and interacted with professional engineers

Affiliate and Volunteer / Chi Epsilon Honor Society

January 2017 – December 2019

- Volunteered in several community service opportunities

SKILLS/INTERESTS

Technical: AutoCAD, MathCAD, RISA, RAM, GTSTRUDL, MFAD, STAAD Pro, SAP, ETABS, ABAQUS, MATLAB, Python

Languages: English – fluent, Tigrinya – fluent, Amharic – fluent, French – basic

Interests: Research, public speaking, finance, current affairs, soccer, cross-country, Krav Maga self-defense, traveling, cooking

PUBLICATIONS AND PRESENTATIONS

- [4] **Girmay, N.,** Miranda, E., & Poulos, A., (2023). Orientation and intensity of maximum response spectral ordinates during the December 20, 2022 M_w 6.4 Ferndale, California earthquake. *Soil Dynamics and Earthquake Engineering*. Advanced online publication. doi:10.1016/j.soildyn.2023.108323
- [3] **Girmay, N.,** Poulos, A., & Miranda, E. (2023). Directionality and polarization of response spectral ordinates in the 2023 Kahramanmaraş, Türkiye earthquake doublet. *Earthquake Spectra*. Advanced online publication. doi:10.1177/87552930231203989
- [2] **Girmay, N.,** Tumbava, M., Do, T., Ojala, D.R., (2022). Evaluation of Seismic Demand on Bridge Nonstructural Components Using ASCE 7. In *Proceedings of the Fifth International Workshop on the Seismic Performance of Non-Structural Components*, Stanford, CA
- [1] **Girmay, N.,** Ojala, D.R., (2022). Presentation on the Evaluation of Seismic Demand on Bridge Nonstructural Components Using ASCE 7. In *the Fifth International Workshop on the Seismic Performance of Non-Structural Components*.