



Exponent[®]
Engineering & Scientific Consulting

Tito Fernandez, Ph.D.

Associate | Mechanical Engineering

Chicago

+1-312-999-4250 tel | afernandez@exponent.com

Professional Profile

Dr. Fernandez has an interdisciplinary background in mechanical engineering, manufacturing design, and mechatronics, and is particularly adept at analyzing systems and products from a design perspective. He also has experience in electromechanical design, human-centered design, computer vision, and robotics.

Prior to joining Exponent, Dr. Fernandez completed his Ph.D. at Northwestern University, developing vision-based fingertip sensors for robotic hands, as well as basic manipulation methods for using those sensors, with a view towards prosthetic applications. During his studies, he performed research in robotic manipulation and computer vision, as well as various public-facing product design projects for both industry and non-profit organizations. He has experience in computer vision, 3D modeling, sensor design, experimental design, and systems modeling.

Academic Credentials & Professional Honors

Ph.D., Mechanical Engineering, Northwestern University, 2023

M.S., Mechanical Engineering, Northwestern University, 2019

B.A., Mechanical Engineering, Northwestern University, 2017

B.A., Manufacturing and Design Engineering, Northwestern University, 2017

Prior Experience

Design Engineering Intern, Tenneco, Summer 2023

PhD Student, Northwestern University, 2019-2023

Head Robotics Coach, Northridge Preparatory School, 2016-Present

Research and Development Intern, Flashcut CNC, Summer 2018

Publications

A. J. Fernandez, H. Weng, P. B. Umbanhowar and K. M. Lynch, "Visiflex: A Low-Cost Compliant Tactile Fingertip for Force, Torque, and Contact Sensing," in IEEE Robotics and Automation Letters, vol. 6, no. 2, pp. 3009-3016, April 2021, doi: 10.1109/LRA.2021.3061378.