Nicholas Ignacio

You found my resume from my website! For updates, contact information, and security clearance information, please email me.

EDUCATION

University of Texas at Austin — **Austin, TX**
Ms/PhD in Materials Science and Engineering — 2021-current

Massachusetts Institute of Technology (MIT) — **Cambridge, MA**
Bachelor of Science in Materials Science and Engineering — GPA: 4.7/5.0 2017-2021

University of Oxford — **Oxford, UK**
Visiting Student at Corpus Christi College through MIT-Oxford Materials Exchange — Spring 2020

EXPERIENCE

Akinwande Group UT Austin - *Graduate Researcher* (Austin, TX) *Aug 2021 – Present*
- 2D material integration for phase change memory utilized in neuromorphic computing
- STM and TEM characterization of 2D materials and devices

Formlabs – *Materials Intern* (Somerville, MA) *Sept 2020 – Jun 2021*
- Powder characterization and analysis of materials (and resulting material properties) in accordance with improvements to the prototype hardware and SLS printing process.
- Selection and evaluation of potential new printing materials.
- Validated and developed Polyamide-11 powder from experimental stage to release as a product.

Grossman Group MIT - *Undergraduate Researcher* (Cambridge, MA) *May 2020 – Sept 2020*
- Used first-principles electronic structure theory to suppress Ostwald ripening of Au nanoparticles in heterogenous noble metal catalysts
- Ran massively-parallel calculations in VASP on shared clusters

Materials Laboratory – *Senior Capstone* (Cambridge, MA) *Aug 2020 – Dec 2020*
- Designed computer vision procedure to identify distinguishing features of steel spark patterns
- Implementing machine learning methods to classify steels based on spark footage

Lockheed Martin Aeronautics – *Materials Intern* (Palmdale, CA) *Jan - Feb 2019 & Jun - Aug 2019*
- Developed additive manufacturing method of radar absorbing parts directly onto aircraft structures with various FDM printers
- 3D printed prototypes of RCS reducing skins, and optimized skins for specific wavelength attenuation
- Produced literature review of low observable materials for internal use within the group

Bioelectronics Group MIT - *Undergraduate researcher* (Cambridge, MA) *Feb – May 2018*
- Optimized parameters for plasma etching on fiber-based neural probe

LEADERSHIP

Society of Undergraduate Materials Scientists (SUMS) – *Vice President* *Spring 2020- Spring 2021*
- Sat on Undergraduate Committee with academic administrators and professors to advocate for student body
- Led efforts to create new position on SUMS board, the Diversity, Equity and Inclusion team.

Department of Materials Science and Engineering *Sep 2019 - Dec 2019*
Teaching Assistant (3.091 Introduction to Solid State Chemistry taught by Prof. Grossman)
- Lead recitation section of 22 students (includes teaching lessons, grading quizzes, and hosting office hours)

Filipino Student Association (FSA) - *Exec* *2018*
- Organize meetings and events to promote Filipino culture at MIT

SKILLS

Languages: Proficient in Tagalog; Limited working proficiency in German
Laboratory: FIB, STM, STEM, 3D Printing, Laser Cutting, XRD, DSC, SEM, DMA, Raman, nanomaterial synthesis and device fabrication
Computational: Python, MATLAB, Mathematica, ROS, DFT, MD,
Computer-aided design (CAD): SolidWorks, CATIA V5, AutoCAD (2D/3D)

OUTREACH

MIT Educational Counselor *Fall 2021- Present*
- Interview MIT applicants providing interface between applicants and MIT/admissions staff

MIT Resident Hall Peer Mentor *Fall 2018- Spring 2020*
Next House Peer Mentor
- Coordinate events and provide support for more than 100 first year students to foster sense of community

DMSE Pre-Orientation Program - *Coordinator* *2018 - 2020*
- Organized a week long program to introduce first years to MIT and materials science including lab tours, industry visits, faculty lunches, student presentations, and activities in the Boston-Cambridge area.

Freshmen Associate Advisor *Fall 2020 – Spring 2021*
- Advise a group of 3 first years on academic life at MIT

Materials Science and Engineering Peer Mentor *Fall 2020 – Spring 2021*
- Assist academic advisor in providing support to sophomores on academics and life within the department

REFERENCES

Prof Deji Akinwande
Temple Foundation Professorship
University of Texas at Austin
J.J. Pickle Research Center
The University of Texas at Austin
Bldg. #160, 10100 Burnet Rd.
Austin, TX 78758
deji@ece.utexas.edu

G. Connor Evans, PhD
Materials Lead
Formlabs
35 Medford Street
Somerville, MA 02143
connor@formlabs.com

Prof Jeffrey C. Grossman
Head of the Department of Materials Science and Engineering; Morton and Claire Goulder and Family Professor in Environmental Systems; Professor of Materials Science and Engineering
Massachusetts Institute of Technology
77 Mass Ave. 13-4053
Cambridge, MA 02139 USA
jcg@mit.edu

Prof Rafael Jaramillo
Assistant Professor of Materials Science and Engineering
Massachusetts Institute of Technology
77 Mass Ave. 13-4053
Cambridge, MA 02139 USA
rjaramil@mit.edu

Last Updated Jan 2022