Nicholas Ignacio

Tel: (+1) 325 829 6146 **Email:** igni@utexas.edu
PhD Candidate

EDUCATION

University of Texas at Austin — **Austin, TX**
Ms/PhD in Materials Science and Engineering advised by Prof. Deji Akinwande — 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 for neuromorphic computing applications
- STM and STEM 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.

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

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

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

SKILLS

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

LEADERSHIP

UT Cockrell School of Engineering Student DEI Board – *Graduate Member* *Sept 2022 – Current*
- Engage with faculty, administration, and student body to contribute towards DEI in the CSE

UT ME 334 Materials Engineering – *Graduate Teaching Assistant* *June 2022 – Aug 2022*
- Graded and hosted office hours for students taking summer course
- Discussed student feedback with lead instructor culminating in new teaching ideas and assesments

MIT Society of Undergraduate Materials Scientists (SUMS) – *Vice President* *May 2020 - May 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.

MIT 3.091 Introduction to Solid State Chemistry – Undergraduate Teaching Assistant *Sep 2019 - Dec 2019*
- Lead recitation section of 22 students (includes teaching lessons, grading quizzes, and hosting office hours)