Linh Vu

585-957-6445 lvu@stanford.edu linkedin.com/in/linhmvu/ linhvu-me.com/

Education

Stanford University **Anticipated June 2025**
MS in Materials Science and Engineering *GPA: 3.8/4.0*
University of Rochester **May 2023**
BS in Mechanical Engineering *GPA: 3.8/4.0*
Minor in Materials Science, Certification in Nanoscience and Nanoengineering

Technical Skills

Softwares: Ansys, NX, Solidworks, Fusion, COMSOL, Sentaurus | **Molecular Dynamics:** LAMMPS, Ovito, VESTA
Languages: MATLAB, Python, Fortran
Manufacturing: Grinder, Lathe, Milling, Welding, Metal Cutting, Spectrometer
Nanofabrication: Direct-Write Lithography, Thermal Oxidation, Metal Sputtering, CVD, ALD, Resist Processing, Dry Etching, Microscoping, Ellipsometry, Micro-manipulating, X-ray Diffractometry

Relevant Experience

Engineering Intern **Feb – Jun 2025**
Stanford Nanofabrication Facility (SNF) *Stanford, CA*
- Design and conduct deposition experiments on ALD Al_2O_3 thin films.
- Analyze experimental data on film quality changed by varying input parameters (pressure, deposition rate, gas flow rate, ...).
- Construct multiphysics and multiscale simulations to interact with digital twins.

LTD Silicon Fabrication Intern **Jun – Sep 2024**
Intel Corporation *Hillsboro, OR*
- Project 1: Investigated the fundamental aspect of PECVD dielectric film adhesion to various substrates.
- Proposed a set of recipes resulting in a decrease of blister defect counts by four order of magnitudes.
- Project 2: Developed novel metrology method to evaluate candidate low-k dielectric materials for semiconductor development.
- Designed controlled experiments with changing parameters (power, chuck, temp., ...) to assess quality of PECVD thin film.
- Established a quick-turn-monitor metrology work flow for film deposition and characterization on patterned wafers.

Structural Analyst Intern **Jun – Aug 2023**
Commonwealth Fusion Systems (CFS) *Devens, MA*
- Developed a flow equation to describe the viscoplasticity behavior of a solder materials, $Sn_{63}Pb_{37}$, via explicit integration method with Excel and MATLAB.
- Implemented a USERMAT subroutine to describe plastic strain rate and true stress relationship of $Sn_{63}Pb_{37}$ using Fortran.
- Performed a single-element FEA in Ansys running from cryogenic to melting temperature to validate the developed USERMAT file.

Research Assistant **May 2021 – May 2023**
Advanced Computational Mechanics & Materials Lab (ACMML) *Rochester, NY*
- Researched the bcc-fcc-bcc phase transformation and twinning formation in Molybdenum nanowires under tensile loading.
- Proposed optimal orientations to increase ductility to 80% strain by introducing a second elastic region with a 100% higher yield.
- Generated MATLAB codes to analyze stress-strain curves, calculate potential and surface energy to explain the phase transformation and the twin boundaries formation.
- Utilized Molecular Dynamics simulations via LAMMPS and Ovito to observe the deformation of the nanowires.
- Published "Phase-transformation assisted twinning in Molybdenum nanowires" as a co-first author.

Structural Analyst Intern **Sep – Dec 2022**
Commonwealth Fusion Systems (CFS) *Remote*
- Determined stress-strain equation of Nitronic 50 from room temperature to melting temperature using Excel and MATLAB.
- Studied how different welding rates and cooling conditions affect the structure's distorsion using Ansys FEA.
- Explored reasonable boundary conditions to optimize solving time while maintained accuracy in simulating the deformation.

Leadership & Activities

Graduate Course Assistant | *Stanford University, CA* **Sep – Dec 2024**
- Worked as a CA for Ordinary Differential Equations for Engineers class in ACE program.

Teaching Assistant | *University of Rochester, NY* **Aug 2020 – May 2023**
- Worked as a TA for Calculus, Engineering of Bridges, and a head TA in Solid Mechanics classes.
- Received the TA Award from Department of Mechanical Engineering in May 2023.

Materials Research Society | *Member (2023-24), Professional Development Co-Chair, Art of Science Chair (2024-25)*

Tau Beta Pi NY Chapter | *Member (2022-)*

Vietnamese Students Association | *Member (2019), Event Manager (2020-21), Co-President (2021-22)*

BAJA SAE | *Manufacturing Member (2019), Business Manager (2021)*