VICTORIA TOVMASYAN

(323) 697-5888 • vtovmasyan@berkeley.edu • 2415 Fulton Street, Berkeley, CA 94704
linkedin.com/in/victoriatovmasyan • github.com/vtovmasyan

EDUCATION

University of California, Berkeley *Expected May 2021*
Bachelor of Science, Materials Science and Engineering GPA: 3.1

- Materials Characterization
- Polymeric Materials
- Composite Materials
- Mechanical Behavior of Engineering Materials
- Bonding, Crystallography, and Crystal Defects
- Phase Transformations and Kinetics
- Thin Film Materials Science
- Engineering Thermodynamics
- Solid Mechanics

SKILLS

Languages
MATLAB • R • Git
LaTeX • Python • Java

Lab Techniques
XRD • Powder Diffraction • SEM/TEM • FIB • NMR • Cleanroom
EDS • Mechanical testing • DLP/SLA Printing • Nanolithography

Software
Autodesk Fusion 360 • Solidworks
AutoCAD • Adobe Illustrator • Excel

EXPERIENCE

Undergraduate Researcher *May 2020 - Present*
Ting Xu Group, University of California, Berkeley

- Conducting computational image analysis of nanoparticle placement in self-assembling BCP nanocomposites as a function of nanocomposite geometry, periodicities, SVA processing, ligand ratio, compositions, etc.
- Characterizing how nanoparticle organization and other system properties affect the macroscale mechanical behavior of the nanocomposite

Undergraduate Researcher *May 2017 - August 2018*
Greer Group, California Institute of Technology

- Prototyped resins with aqueous salt solutions to be used as a platform for additive manufacturing of architected complex metal oxides with 3D Lithium-ion battery applications
- Fine-tuned salt-resins based on desired end-product qualities including print resolution, battery capacity, and resin shelf-life
- Optimized battery structure in SolidWorks; performed SLA 3D printing; assisted in pyrolyzation of polymer

PUBLICATIONS

Greer Group, California Institute of Technology *2020*

- Yee, D. W., Citrin, M. A., Taylor, Z. W., Saccone, M. A., **Tovmasyan, V. L.**, Greer, J. R., Hydrogel-Based Additive Manufacturing of Lithium Cobalt Oxide. *Adv. Mater. Technol.* 2020, 2000791.

PROJECTS

Ferromagnetic Material Remagnetization Study *March - June 2020*

- Derived system-specific magnetization and energy formulas to determine effect of cooling rate on the remagnetization of ferromagnetic materials raised above Curie Temperature
- Coordinated experimental process, including XRD peak shift analysis, magnetization characterization, thin film preparation by FIB milling, local magnetic domain imaging, and data analysis methods

Piezoelectric Floor Tile Optimization *March - May 2020*

- Performed simulations of various mechanical properties on barium titanate-epoxy matrix composites as a function of particulate volume fraction to maximize life-span of clean energy-harvesting piezoelectric ceramic floor tiles
- Conducted comprehensive literature review to survey existing models for similar metallic particulate epoxy composites

ORGANIZATIONS

Professional Development Committee Member *September 2017 - Present*
Theta Tau, Epsilon Chapter

- Sketched and built a regulation-size foosball table with a scoreboard controlled by Arduino via pressure sensors in the goals
- Assisted in execution of on-campus professional events with membership of over 60 UC Berkeley students

Airframe and Propulsion Team Member *September 2017 - May 2018*
Space Technologies and Rocketry, formerly CalSTAR

- Accumulated data on potential rocket materials based on mechanical properties, aerospace performance, budget, etc.
- Performed selection of top materials for each rocket system based on valuation assessment