Kelsey L. Snapp
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EDUCATION
Boston University, College of Engineering, Boston, MA
Doctor of Philosophy, Mechanical Engineering — Expected August 2024
Master of Science, Mechanical Engineering — May 2023

The University of Texas School of Law, Austin, TX — 2009 - 2012
Juris Doctorate

The University of Oklahoma, Norman, OK — 2006 - 2009
Bachelor of Arts, Linguistics, Minors: Spanish and Arabic

PROFESSIONAL EXPERIENCE
Student Trainee (Engineering) — January 2024 - Present
CB Innovative Material & Ensemble Development Team, DEVCOM Soldier Center, Natick, MA
- Designed and 3D printed custom interfaces to mount equipment in automated testing machine.
- Overhauled gantry control system with custom GUI interface using Arduino and G-Shield motor controller.
- Developed software to coordinate testing equipment and automatically test samples.
- Analyzed test data using sophisticated data analysis techniques.
- Programmed 6-axis robot arm to open/close testing chamber door. Will facilitate automated sample transfer in the future.

Graduate Researcher — August 2019 - Present
KAB Lab, Boston University, Boston, MA
- Developed and managed autonomous experimentation system that used Bayesian Optimization to sequentially select and perform experiments. More than 25,000 physical experiments completed.
- Created new parametric family of additively manufactured structures to efficiently absorb mechanical energy. Discovered 75% efficient structure, a world record.
- Incorporated advanced machine learning and machine vision techniques into autonomous system.
- Integrated additional hardware and added software checks to increase reliability of system.

Graduate Student Teacher — Fall of 2020 and 2021
Mechanical Engineering Department, Boston University, Boston, MA
- Guided discussions twice a week, helping students understand how to approach and work through challenging engineering problems.
- Organized two experimental labs each semester.
- Graded labs and assisted instructor with grading exams.

Team Manager and Staff Attorney — 2012 - 2019
*Texas RioGrande Legal Aid***,** Edinburg, TX
- Management: Supervised attorneys and paralegals who provided free legal services to low-income clients.
- Writing: Drafted pleadings and legal briefs for federal and state courts. Prepared client letters and outreach materials for those with limited formal education.
- Speaking/Training: Presented at dozens of conferences for attorneys and spoke at over a hundred public outreach events. Developed and facilitated internal LGBTQ training program for staff.
- Leadership: Led annual wills clinic for over 100 clients. Coordinated more than 50 staff and volunteers.
- Community Development: Coordinated with local non-profit organizations, government entities, and pro bono attorneys to address systemic issues affecting low-income clients.
- Grant Management: Oversaw major grant renewal. Submitted yearly grant reports.

PUBLICATIONS

7. **Snapp, K.L.,** Verdier, B., Gongora, A.E., Silverman, S., Adesiji, A.D., Morgan, E.F., Lawton, T.J., Whiting, E. and Brown, K.A., (In Press) Superlative Mechanical Energy Absorbing Efficiency Discovered through Self-Driving Lab-Human Partnership, *arXiv preprint arXiv:2308.02315*.
6. **Snapp, K.L.** and Brown, K.A., (2023) Driving School for Self-Driving Labs, Digital Discovery.
5. Saygin, V, **Snapp, K.L.**, Gongora, A. E., Kolaghassi, R., & Brown, K. A., (2023) Mechanical Consequences of Oxygen Inhibition in Vat Polymerization, Advanced Materials Technologies, 8(12).
4. Gongora, A.E., Saygin, V., **Snapp, K.L**., Brown, K.A., (2023) Autonomous experimentation in nanotechnology, Intelligent Nanotechnology, 331-360.
3. Gongora, A.E, **Snapp, K.L.**, Pang, R., Tiano, T.M., Reyes, K.G., Whiting, E., Lawton, T.J., Morgan, E.F., Brown, K.A., (2022) Designing Lattices for Impact Protection using Transfer Learning. Matter 5 (9), 2829-2846.
2. Gongora, A.E, **Snapp, K.L.**, Whiting, E., Riley, P., Reyes, K.G., Morgan, E.F., Brown, K.A. (2021) Using simulation to accelerate autonomous experimentation: A case study using mechanics, iScience. 24(4), 102262.
1. **Snapp, K.L.**, Gongora, A.E., & Brown, K.A. (2021) Increasing Throughput in Fused Deposition Modeling by Modulating Bed Temperature, Journal of Manufacturing Science and Engineering, 143 (9).

CONFERENCE PRESENTATIONS AND POSTERS
3. **Snapp, K.L**. et al., Autonomous Discovery of Tough Structures (Poster), Accelerate Conference, Toronto, Canada, August 2023.
2. **Snapp, K.L**. and Brown, K.A, Unravelling Hierarchical Polymers using Self-Driving Labs, Center for Nanophase Materials Science User Meeting, Oak Ridge National Lab, Knoxville, Tennessee, August 2023.
1. **Snapp, K.L**. et al., Discovering Structures for Energy Absorption using Autonomous Experimentation, 19th U.S. National Congress on Theoretical and Applied Mechanics, Austin, Texas, June 2022.

LEADERSHIP, VOLUNTEER EXPERIENCE, AND INTERESTS
Treasurer, Bexar County LGBT Bar Association, San Antonio, TX   2017 - 2019
Board Member, Hidalgo County Bar Association, Edinburg, TX   2014 - 2016
- *Board Member of the Year,* 2016
President, Domestic Violence Survivor Support Network, Austin, TX   2011 - 2012
Spanish Translator, Health for Friends (Medical Clinic), Norman, OK   2007 - 2009
Tutor, Business Precalculus, University of Oklahoma, Norman, OK   2007 - 2009
Hobbies: Hiking, snowboarding, 3D printing, and reading science fiction.

SKILLS
MATLAB, Python, Machine Learning, Machine Vision, Bayesian Optimization, Gaussian Process Regression, Deep Neural Networks, SolidWorks, Fusion 360, G-code, Arduino, Microsoft Office, Basic Shop Skills (Soldering, Drill Press, Circular Saw, etc.), Spanish(fluent).