

SEYMUR HASANOV, PH.D.

[in seymurh](#) | [✉ he.seymur@gmail.com](mailto:he.seymur@gmail.com) | [📞 \(931\) 265-7895](tel:(931)265-7895) | [📄 Google Scholar](#)

Objective

Mechanical Engineer and Ph.D. researcher with a focus on experimental mechanics, digital manufacturing, and functionally graded materials. Currently expanding expertise in data science and machine learning through ALM at Harvard. Passionate about intelligent design, large language models, and AI-driven innovation in manufacturing.

Education

Harvard University Extension School

Master of Liberal Arts (ALM) in Data Science; GPA: 3.97/4.00

Cambridge, MA

Jan 2024 – Present

Tennessee Tech University

Ph.D. in Mechanical Engineering; GPA: 4.0/4.0

Cookeville, TN

Aug 2018 – Jul 2021

Baku Engineering University (Qafqaz University)

M.Sc. and B.Sc. in Industrial Engineering; GPA: 4.0/4.0

Baku, Azerbaijan

Sep 2007 – Jun 2015

Experience

Harvard University, SEAS

Lecturer & Assistant Director of Undergraduate Studies

Cambridge, MA

Jan 2023 – Present

- Teach ES51, ES192, and advise ES100 capstone teams.
- Mentor students in CAD, design for AM, and materials selection.

University of Alabama in Huntsville (UAH)

Assistant Professor (Clinical) – Engineering Technology

Huntsville, AL

Aug 2021 – Dec 2022

- Developed lab spaces and hybrid courses for engineering students.
- Supervised graduate projects in advanced manufacturing.

Tennessee Tech University, Center for Manufacturing Research

Research Assistant

Cookeville, TN

Aug 2018 – Jul 2021

- Led research on FGMs, metal-polymer AM, and fatigue analysis.
- Worked on NSF projects AM-WATCH and MANEUVER.

PMD Projects LLC

Mechanical Engineer

Baku, Azerbaijan

Aug 2017 – Aug 2018

- Conducted HVAC design, load calculations, and performance optimization.

Selected Projects

Crack Detection in Infrastructure Using YOLOv11

Deep Learning – CSCI E-89

Harvard, 2024

Trained YOLOv11 model to detect cracks from drone-collected imagery. Achieved 70.7% mAP50.

Energy Efficiency Regression Analysis

Fundamentals of Data Science – CSCI E-83

Harvard, 2024

Used Bayesian and linear regression for energy demand predictions in building simulations.

Flowserve Composite Mold Optimization

Industry Research Collaboration

Tennessee Tech, 2021

Used DoE and RSM to optimize FFF parameters for low-cost mold fabrication.

Technical Skills

- **CAD & Simulation:** SolidWorks (Expert), AutoCAD, Fusion 360, ANSYS, InspireCast, Hypermesh
- **Programming & Data:** Python, R, SQL, Matlab, Tableau, scikit-learn, TensorFlow, Keras, numpy, pandas
- **FEA & Visualization:** Paraview, SpaceClaim, Meshmixer
- **3D Printing Tools:** Cura, Voxelizer, Simplify3D
- **Certifications:** SolidWorks Expert, Additive Manufacturing Associate, Advanced CAM Tools

Publications

Full list available on [Google Scholar](#). Key highlights:

- Hasanov et al., “Review on Multi-Material AM Parts,” *JMMP*, 2021.
- Gupta, Hasanov et al., “Hierarchical Modeling of FGMs,” *Composite Structures*, 2021.
- Hasanov et al., “Characterization of AM Polymer FGMs,” *JMP*, 2020.

Awards and Recognition

- NSF VR Workshop Award – Oculus Quest 2 + \$600 (2021)
- Eminence Award – Best Ph.D. Paper, TTU (2021)
- Kinslow Research Award – \$1000, TTU (2021)
- UX Design Winner – Foggy Goggles COVID-19 Project (2020)
- SME Lee Severy Award – \$1500 (2019)

Invited Talks & Workshops

- “Functionally Graded Composite Parts via FFF,” Additive Mfg Day, TTU (2021)
- “Design for AM,” AM-WATCH Workshop, Purdue & TTU (2021)
- “Multi-Material AM for FGMs,” IACMI-The Composites Institute (2019)

Academic Review Service

- Reviewer – *Additive Manufacturing* (Elsevier)
- Reviewer – *Composites B*, *Rapid Prototyping Journal*, *SFF Symposium*

Professional Memberships

- Society of Manufacturing Engineers (SME) – Vice President, TTU Chapter
- American Society of Mechanical Engineers (ASME)
- National Society of Black Engineers (NSBE)
- American Society for Engineering Education (ASEE)