FARZAD SHAFIEI DIZAJI, M.Sc.

Mathematics Educator • Former Lecturer, Applied Mathematics Center, University of Virginia (Fall 2019 – Spring 2026)
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PROFESSIONAL SUMMARY

Mathematics educator with seven academic years (Fall 2019 – Spring 2026) of full-time teaching in the Applied Mathematics Center at the University of Virginia, where I taught Calculus, Multivariable Calculus, Ordinary Differential Equations, Linear Algebra, and Probability to engineering and applied-science undergraduates in sections of 24 to 89 students. My UVA appointment concluded at the end of the Spring 2026 semester. I taught fully online through the COVID-19 transition and co-authored two ASEE studies on how that shift affected students' confidence in mathematics. I completed evidence-based teaching training through UVA's Center for Teaching Excellence and supervised up to nine undergraduate teaching assistants per semester. Two M.Sc. degrees in engineering with an applied-mathematics foundation, 18 journal and conference publications, and teaching experience at four universities. Seeking lecturer and assistant professor positions.

TEACHING EXPERIENCE

Lecturer (Academic General Faculty), Applied Mathematics — *Fall 2019 – Spring 2026*

Applied Mathematics Center, University of Virginia | No longer teaching at UVA; appointment ended Spring 2026 | Department of Engineering and Society (2019–2022); Applied Mathematics Center (2022–2026)

- **Courses and scale.** Instructor of record for the core engineering mathematics sequence: Single Variable Calculus I, Calculus II, Multivariable Calculus, Ordinary Differential Equations, Linear Algebra, and Probability. Documented enrollments across my UVA lecturer and teaching-fellow sections exceed 1,100 students.
- **Full instructional cycle.** Wrote syllabi and learning objectives; delivered lectures; designed homework, quizzes, and exams; graded and gave feedback; held regular office hours; and kept attendance and grade records.
- **Team leadership and course coordination.** Supervised one to two undergraduate TAs and a graduate TA per section, and up to nine undergraduate TAs in my later years; guided 10+ TAs in 2024. Helped write test problems and grade portions of exams so multi-section courses stayed consistent.
- **Online and hybrid instruction.** Taught multiple sections fully online from Spring 2020 through Spring 2021, including a summer term, and studied the effects on students in two co-authored ASEE papers (see Scholarship).
- **Advising and outreach.** Advised students on choosing majors and minors, wrote recommendation letters for students (2024, 2025), and gave lectures at university open house events (2024, 2025).

Courses taught as Lecturer at UVA

APMA 1090 Single Variable Calculus I	Fall 2023 (2 sections, 32 and 24 students) and multiple additional semesters
APMA 1110 Calculus II	Fall 2019; Fall 2020 (2 sections); Fall 2021 (2 sections); Fall 2022 (2 sections, 89 students)
APMA 2120 Multivariable Calculus	Spring 2022
APMA 2130 Ordinary Differential Equations	Fall 2019; Spring 2020 (2 sections); Summer 2020; Spring 2022; Fall 2022
APMA 3080 Linear Algebra	Spring 2021
APMA 3100 Probability	Spring 2020
Spring 2022 – Spring 2026	Rotating assignments across the Center's course offerings, with up to nine undergraduate TAs supervised

Graduate Teaching Fellow, University of Virginia — *2017 – 2019*

Statics (CEE 2300, 85 students); Strength of Materials (CEE 2310, 56); Partial Differential Equations (APMA 3140, 65); Multivariable Calculus (APMA 2120, 143); Engineering Mathematics (APMA 3410, 55); Probability (APMA 3100, 23); Linear Algebra (APMA 3080, 14)

Graduate Teaching Fellow, University of Central Florida — *2015 – 2016*

Statics (140 students); Structural Analysis laboratory (80); Design of Reinforced Concrete (60); Structural Mechanics (65)

Instructor, Islamic Azad University of Tabriz and University of Maraghe (Iran) — *2011 – 2014*

Mechanics of Materials; Structural Analysis; Solid Mechanics; Design of Steel and Concrete Structures; Seismic Design of Masonry Structures; Selected Topics in Civil Engineering

PEDAGOGICAL TRAINING

- Foundations of Scholarly Teaching (FOSTer), six-week program, and Fellow, Tomorrow's Professor Today (TPT) program, UVA Center for Teaching Excellence
- Active Learning Techniques for a More Engaged Engineering Class (workshop); Research Communication Training Program (RCTP); ongoing CTE sessions on curriculum (re)design, 2024–2025

EDUCATION

M.Sc., Civil (Structural) Engineering, University of Virginia *2016 – 2019*

GPA 3.97/4.0 | Thesis: Multi-Level Seismic Response Mitigation Using Shape Memory Alloy-Based Self-Centering Control Devices | Advisor: Prof. O. E. Ozbulut

M.Sc., Civil (Earthquake) Engineering, Iran University of Science and Technology *2005 – 2008*

Thesis: Graph-Theoretical and Algebraic Methods for Improving the Conditioning of the Structural Flexibility Matrix (seven original optimization algorithms; grade 4/4) | Advisor: Prof. A. Kaveh

B.S., Civil Engineering, University of Tabriz *2000 – 2005*

Thesis grade 4/4. Graduate study in Civil Engineering, University of Central Florida, 2015–2016 (GPA 4.0/4.0).

SCHOLARSHIP: FULL PUBLICATION LIST

Engineering and mathematics education (conference papers)

1. Morris, Diana D., Hui Ma, and **Farzad Shafiei Dizaji** (2024). Exploring the Impact of Mastery Grading on Student Performance. *ASEE Annual Conference & Exposition*, 2024.
2. Guadagni, G., Maiti, D., and **Shafiei Dizaji, F.** (2023). Exploiting a Grading Option to Measure Mathematics Confidence of Engineering Students. *ASEE Annual Conference & Exposition*, Baltimore, MD.
3. Guadagni, G., Maiti, D., and **Shafiei Dizaji, F.** (2022). Impact of COVID-19 on Applied Mathematics Courses for Engineering Students. *ASEE Annual Conference & Exposition*, Minneapolis, MN.

Journal articles

4. **Shafiei Dizaji, F.** and Shafiei Dizaji, M. (2022). Seismic performance assessment of steel frames upgraded with shape memory alloy re-centering dampers for passive protection of structures subjected to seismic excitations using high-performance NiTiHfPd material. *Smart Materials and Structures*, 31, 065004.
5. **Shafiei Dizaji, F.** and Shafiei Dizaji, M. (2022). Novel computational mathematical algorithms for structural optimization using graph-theoretical methods. *Engineering Computations*, 39(6).
6. Farrokh, M., **Shafiei Dizaji, F.**, and Shafiei Dizaji, M. (2022). Hysteresis identification using extended Preisach neural network. *Neural Processing Letters*, 1–25.
7. Shafiei Dizaji, M., **Shafiei Dizaji, F.**, and Taghizadeh, E. (2018). Nonlinear adaptive simulation of concrete gravity dams using generalized Prandtl neural networks and damage detection. *International Research Journal of Engineering and Technology*, 5(6).
8. Shafiei Dizaji, M. and **Shafiei Dizaji, F.** (2017). Artificial neural networks to determine source of acoustic emission and damage detection. *International Research Journal of Engineering and Technology*, 4(6).
9. **Shafiei Dizaji, F.** and Khanzadi, M. (2011). Graph theoretical methods for improving the well-conditioning of structures flexibility matrix. *Journal of Civil Engineering, Ferdowsi University of Mashhad*, 22(1), 27–44.

Conference papers and proceedings

10. **Shafiei Dizaji, F.** (2022). A novel passive structural control device using high-performance NiTiHfPd material. *Proc. SPIE 12043, Active and Passive Smart Structures and Integrated Systems XVI*, 120430WP; SPIE Smart Structures + Nondestructive Evaluation, March 6–10, 2022.
11. Shi, F., Toker, G. P., **Shafiei Dizaji, F.**, Ozbulut, O. E., and Karaca, H. E. (2018). Experimental and numerical investigations on seismic applications of high damping SMAs. *Eleventh U.S. National Conference on Earthquake Engineering*, Los Angeles, CA, June 25–29, 2018.
12. Saedi, S., **Shafiei Dizaji, F.**, Ozbulut, O. E., and Karaca, H. E. (2017). Structural vibration control using high strength and damping capacity shape memory alloys. *Structural Dynamics Challenges in Next Generation Aerospace Systems (IMAC XXXV)*, Garden Grove, CA, Jan. 30 – Feb. 2, 2017.
13. Joghataie, A., Shafiei Dizaji, M., and **Shafiei Dizaji, F.** (2012). Neural network software for dam-reservoir foundation interaction. *International Conference on Intelligent Computational Systems (ICICS'2012)*, Dubai, UAE, Jan. 7–8, 2012.
14. **Shafiei Dizaji, F.**, Khanzadi, M., and Shafiei Dizaji, M. (2010). Using ESO method for topology optimization of structures. *3rd International Conference on Seismic Retrofitting with the Focus on Bridges, Lifeline Engineering & Concrete Technology*, Tabriz, Iran, Oct. 20–22, 2010.
15. **Shafiei Dizaji, F.**, Khanzadi, M., and Shafiei Dizaji, M. (2010). Structural topology optimization with frequency dynamic constraints. *3rd International Conference on Seismic Retrofitting with the Focus on Bridges, Lifeline Engineering & Concrete Technology*, Tabriz, Iran, Oct. 20–22, 2010.
16. **Shafiei Dizaji, F.** and Khanzadi, M. (2009). Comparison of different nonlinear models for simulating nonlinear behavior of concrete gravity dams. *2nd International Conference on Seismic Retrofitting with the Focus on Concrete Technology*, Tabriz, Iran, Nov. 6–7, 2009.

17. Kaveh, A., **Shafiei Dizaji, F.**, and Khanzadi, M. (2009). Using graph theoretical methods for improving the conditioning of structures flexibility matrix in structural optimization analysis. *8th International Congress on Civil Engineering*, Shiraz, Iran, May 11–13, 2009 (oral presentation).
18. Kaveh, A. and **Shafiei Dizaji, F.** (2008). Optimization of the conditioning of structural matrices in force method. *1st International Conference on Seismic Retrofitting*, Tabriz, Iran, Oct. 21–23, 2008 (oral presentation).

In preparation: A Novel Seismic Resisting System Based on Mechanical Characteristics of Carbon Nano-Structures.

Peer reviewer: Smart Materials and Structures; Journal of Intelligent Material Systems and Structures; Smart Structures and Systems.

SERVICE, MENTORING, AND DIVERSITY INITIATIVES

- Guided 10+ teaching assistants (2024); helped write and grade exams for multi-section courses (2024, 2025); attended Center for Teaching Excellence sessions (2024, 2025).
- Volunteer, BRIDGE summer program for college students from underrepresented backgrounds (2018); mentor, VA-NC Alliance for Minority Participation and Diversity summer research program (2018).
- Vice President, American Concrete Institute Student Chapter at UVA (2018–2019); graduate student team leader, Jefferson's Public Citizen Program (2018); student member, UVA Advanced Research Computing Services Focus Group (2018).

HONORS AND PROFESSIONAL STANDING

- Recognized for contributions to the UVA community by the P.R.I. Society, Department of Applied Mathematics and Science, University of Virginia (2019–2020).
- Graduate scholarships at UVA (2016–2019), UCF (2015–2016), and Iran University of Science and Technology (2005–2008); sole recipient of UCF's Geotechnical and Environmental endowed scholarship for 2016–2017.
- Ranked 192nd of 70,000+ candidates in Iran's national graduate entrance exam in civil engineering (2005).
- Licensed Professional Engineer (Iranian Organization for Engineering Order of Building); member, ASCE, ACI, and the Iranian Earthquake Engineering Association.

TECHNICAL AND LANGUAGE SKILLS

MATLAB (advanced), Python, Fortran; Microsoft Office; learning management systems for course delivery; engineering software including SAP2000, ANSYS, Abaqus, OpenSees, AutoCAD.

Languages: English (fluent); Farsi and Azerbaijani (native); Turkish (good); Arabic (basic). References available upon request.