

1. **Co-developed the Unicone Method (Eslami & Fellenius, CGJ, 1997)**
A pioneering CPT-based approach for axial pile design using CPT and CPTu data, widely cited in technical literature and applied in practice worldwide.
2. **Developed the UniCone Software (UniSoft Ltd., 2002)**
A professional program for processing and reporting Cone Penetration Tests (CPT and CPTu), soil profiling, and pile capacity analysis, used in geotechnical projects and education.
3. **Founded and Directed Sham-e Consulting Engineering Co. (2000–Present)**
Led a multidisciplinary firm providing consulting services for residential buildings, industrial plants, bridges, highways, and marine structures for over two decades.
4. **Designed and Fabricated the Frustum Confining Vessel (FCV-AUT, 2020–2024)**
A physical modeling apparatus for CPT and pile testing under confined conditions, simulating field stress up to 250 kPa, applied to research on helical and anchor piles.
5. **Referenced in Leading U.S. Textbooks for CPT-Based Pile Design**
The Eslami–Fellenius method (1995–1997) has been cited in at least two widely adopted American textbooks:
Soil Mechanics and Foundations by Budhu (2002–2008), and
Foundation Design: Principles & Practices by Coduto (2001–2014).
6. **Compiled the AUT Geo-CPT & Pile Database (2010–2020)**
Assembled over 600 case records of axial pile load tests with corresponding CPT/CPTu profiles, including offshore and nearshore sites, supporting research and predictive modeling.
7. **Taught a Broad Range of Postgraduate Courses (1988–2025)**
Delivered advanced courses such as Marine Geotechnical Engineering, Offshore Foundations, Ground Improvement, Site Investigation, and CPT/CPTu Applications in Foundation Design.
8. **Peer Reviewer for Leading International Journals (1995–Present)**
Actively served as referee for journals including *Ocean Engineering*, *Soil Dynamics*, *Canadian Geotechnical Journal*, *ASCE*, *Geotechnique*, *COMGEO*, *ICE Proceedings*, *Marine Georesources & Geotechnology*, and *Transportation Geotechnics*.
9. **Organized and Led Numerous Short Courses and Workshops (Since 1997)**
Delivered training on CPT & CPTu applications, foundation systems, adjacent

construction risk, uncertainty and reliability, sustainable solutions, and modern ground improvement techniques.

10. Keynote and Invited Speaker at International Forums (2005–Present)

Presented invited lectures for organizations such as DFI, ASCE, IGS, UC Irvine, UC San Diego, and McGill University, sharing research findings and professional experience.

11. Published Over 150 Research Papers in Reputable Journals

Contributions include papers in *DFI Journal* (1995, 2023), *CGJ* (1997, 2011), *COMGEO* (2009, 2023, 2024), *ASCE* (2015, 2020, 2024), *SDEE* (2017, 2024, 2025), *Geotechnique* (2024), *Soft Computing* (2022), and *Ocean Engineering* (2023–2024). Accumulated over 3,800 citations and an H-index of 33 (Google Scholar).

12. Holder of Four Licensed National Inventions

Recognized by Iranian research authorities for innovations including:

- Attached Single Foundations (2004)
- Frustum Confining Vessel – large-scale (2014)
- Inclined Retaining Wall System (2016)
- Upgraded 1g Testing Apparatus with Image Processing for Adjacent Foundations (2023)

13. Led Dozens of Major Ground Engineering Projects (1988–Present)

Served as Principal Investigator, Chief Designer, and Reviewer for towers, highways, bridges, and infrastructure, emphasizing value engineering, performance, and sustainability.

14. Supervised Graduate Research Projects (1997–2025)

Advised and mentored over 150 M.Sc. theses and more than 25 Ph.D. dissertations on topics related to geotechnical and foundation engineering.

15. Authored Two Major Textbooks and Contributed to Reference Volumes

Books published by Elsevier (2020) and Wiley (2025):

- *Piezocone and Cone Penetration Test (CPTu and CPT) Applications in Foundation Engineering*
- *Advanced Foundation Engineering: Principles, Performance, and Prospect*
Also contributed chapters to *Databases for Data-Centric Geotechnics* (CRC Press, 2024).

16. Compiled the CPTu-Geo-Marine Dataset (PEM, 2022)

Focused on deltaic and soft deposits to develop the triangular Soil Behavior Classification (SBC) chart — an advancement in CPTu-based marine profiling and interpretation.

17. Advised North Sea Offshore Wind Foundation Study (2022)

Served as senior technical advisor for a feasibility study on gravity-based foundations for offshore wind turbines, contributing to innovation in marine renewable energy systems.

18. Advanced the FELADD Package for AI-Driven Load–Displacement Modeling (2020–Present)

Promoted real-world data applications for various foundation types — including small-scale, footings, piles, pile groups, and prefabricated raft–pile systems (PRFs) — toward an integrated stress–strain design framework using intelligent methods.