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SUMMARY

-Over 7 years of research and hands-on experience in the Mechanical engineering related fields. My work involves Fluid-Structure Interaction problems, Turbulence around floating bodies, Hydrodynamics and propulsion, Wind tunnel testing, physical modeling and Laboratory techniques, CFD and FEA.

-Excellent interpersonal and leadership skills, challenge-driven, highly proficient in technical presentations, reporting and grants proposal writing.

EDUCATION

Postdoctoral Research Scientist

Aug 2017-Aug 2018

Department of Mechanical Eng. UMass in Amherst

PhD. in Mechanical Engineering

Aug 2013-Aug 2017

University of Maine

Course work: Advanced fluid mechanics, CFD, Advanced vibration, Fluid Structure Interaction

Master of Science in Hydromechanics

August 2012

Amir Kabir University of Technology, Tehran, Iran.

B.S. Mechanical Engineering.

May 2010

Amir Kabir University of Technology, Tehran, Iran.

COMPUTER SKILLS

ANSYS Workbench, ANSYS AQWA, ANSYS Fluent (skilled in Finite Element Analysis, Finite Volume Methods and CFD)

STAR-CCM+

LabView (Experienced in measurement, designing control systems, data acquisition and post processing)

SolidWorks

MATLAB, Fortran (proficient in numerical simulation)

MS Project & MS office.

PROFESSIONAL EXPERIENCE

Research & Development Engineer, *University of Mass, August 2017-Aug 2018*

- Developed a wave-current channel flow for the renewable energy research and Fluid-Structure Interaction study
- Designed an actuating plunge wavemaker (Team leader)
- Created and finalized CAD designs to meet project requirements: SolidWorks
- Designed a control system for a flume channel using LabView
- CFD modeling to verify the flow uniformity and turbulence in a channel in two phase fluids: ANSYS Fluent
- Managed the timeline using MS Project and prepared reports

- Estimated costs and delivery time
- Wrote grant proposals for NREL and DOE to fund the prospective projects

Graduate Instructor, University of Maine, August 2017-Dec 2017

- Taught Fluid-Structure interaction course at the Mechanical Engineering Department with the topics of advanced Fluid Mechanics, Advanced Vibrations, and Mechanic of Waves
- Supervised the graduate students' projects related to fluid-structure interaction, renewable energy devices, and CFD research.

Intern at W2 Ocean Engineering Lab, Advanced Structures & Composites Center, Aug 2015- Jan 2016

- Collaborated with Engineers to test renewable energy devices (wave tank and wind tunnel)
- Collected wave tank data and conduct post processing

Graduate Research Assistant, University of Maine, Aug 2013- Aug 2017

- Performed Fluid-Structure Interaction physical testing at MOOR lab
- Conducted experimental campaign of a turret moored tanker model in complex sea states (unidirectional and bidirectional waves, waves and wind) at Alford W2 Ocean Engineering Lab (Wind tunnel and waves).
- Analysis of dynamic response and instability of moored tankers
- Numerical analysis of turret moored tankers in waves and wind using ANSYS AQWA
- Near and Far-Field CFD for a Naval Combatant in Two-Phase flow including Thermal-Stratification using STAR CCM+
- 1/50 model scale construction and instrumentation of a Navy Combatant (DTMB 5415).
- 1/120 model scale construction and instrumentation of a turret-moored tanker at MOOR lab (UMaine).
- Designed a truncated mooring system for the Alford W2 Ocean Engineering Lab at UMaine.

Engineer at Asia Classification Society, Tehran, Feb 2012-Jul 2012

- Issued class and statutory ship certificates for all type of vessels according to international rules, regulation and IMO conventions.
- Collaborated with engineering team to ensure high quality on-time delivery to customers

Graduate Student, Amirkabir University, Agust 2010-Oct 2012

- Developed a B-spline based code in FORTAN for computation of added resistance in waves.

TEACHING EXPERIENCES

Laboratory Instructor, UMass Amherst

Capstone project (Senior Level)

Spring 2018

- Instructing a capstone group at MIE department to build an adjustable wave generation and control system.

Graduate Instructor, University of Maine

Fall 2017

Fluid Structure Interaction (7 graduate students)

- Teaching the course and supervising students' course projects with the topics of advanced fluid mechanics, advanced vibration, mechanics of waves...

HONORS AND AWARDS

- **Society of Naval architecture and Marine Engineering Scholarship Award recipient for 2016.** (This is a \$5000 award established and funded by Bruce and Dorothy Rylander Johnson for Society of Naval Architecture and Marine Engineering to recognize a student who exemplify outstanding contribution to the field of naval, marine, and ocean engineering studies.)
- **Awarded the International Society of Offshore and Polar Engineers (ISOPE) Scholarship (2015).** (This scholarship is awarded each year by Offshore Mechanics and Polar Engineering Council (OMPEC) to four outstanding graduate students who potentially can be leaders in Ocean Technology based on their academic performance).
- **University of Maine Dissertation Writing Fellowship (2017)** (Awarded to PhD students with top-notch works to accomplish their dissertation).

PUBLICATION

- Peer- Reviewed Journals Articles

- [1]. **Zangeneh R**, Thiagarajan K, Urbania R, Tian Z, 2016," Effect of viscous damping on the heading stability of turret-moored tankers", **Journal of Ships and Offshore Structures**, 12(3), 360-369.
- [2]. **Zangeneh R**, Thiagarajan K, Cameron M, (2017) "Influence of wind and wave directionality on the heading instability of a turret moored tanker in bidirectional seas." **Journal of Applied Ocean Research**, 78, 156-166.
- [3]. **Zangeneh R**, Ghiasi M, "A B-spline method used to calculate the added resistance of ships in waves", **Journal of Marine science and applications**, 16(1), 1-7.

- Peer-reviewed Conference Papers

- [1]. Cole A, Fowler M, **Zangeneh R** , Viselli A, 2017, "Development of a New Federally Funded Wind/Wave/Towing Basin to Support the Offshore Renewable Energy Industry. **30th AMERICAN TOWING TANK CONFERENCE**, Maryland, Oct 2017.
- [2]. **Zangeneh R**, Thiagarajan K, Cameron M, 2017, "Global performance of a turret-moored large tanker in complex sea states dominated by swell and wind-seas", **22th SNAME offshore Technology Symposium**, Houston, Feb 2017.
- [3]. **Zangeneh R**, Thiagarajan K, Cameron M, 2017, " Effect on wind loads and damping on heading Stability of FPSOs ", **36th International Conference on Ocean, Offshore and Arctic Engineering**, Trondheim, Norway, June 26-31.
- [4]. **Zangeneh R**, Thiagarajan K, 2015," Effect of Wind Loads on Heading Stability of FPSOs ", **Proceedings of World Maritime Technology Conference (WMTC 2015)**, November 2015, Providence, RI, USA.
- [5]. **Zangeneh R**, Thiagarajan K, 2015, "Heading instability analysis of FPSOs", **Proceedings of The Twenty-fifth International Offshore and Polar Engineering Conference**, June 21-26, Kona, Hawaii, USA
- [6]. **Zangeneh R**, Thiagarajan K, Urbania R, Tian Z. Tian,2014," Viscous damping effects on heading stability of turret-moored ships", 2014, **Proceedings of 33rd International Conference on Ocean, Offshore and Arctic Engineering**, San Francisco, CA, USA.
- [7]. **Zangeneh R**, Ghiasi M, Yan T, 2012, "Calculation of added resistance in waves", **Proceedings of ASME 2012 International Mechanical Engineering Congress and Exposition**, Volume 12: Vibration, Acoustics and Wave Propagation. Houston, Texas, USA, November 9-15, 2012.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Physical Society (APS). (Fluid Dynamics and computational physics division)

American Society of Mechanical Engineers

Society of Naval Architecture and Marine Engineering (SNAME)

Society of Women Engineers (SWE)