

Dear Hiring Manager,

I read your advertisement for an engineer with great working knowledge. If you are seeking to augment your leadership team with knowledgeable mechanical design, CFD and numerical methods known for breakthrough results, please consider my enclosed resume.

I have over seven years of experience in fluid mechanics, laboratory technics and signal processing, mathematical modeling, and numerical analysis (MATLAB, FEA and CFD). My research interests lie primarily fluid-structure interaction problems both model testing and computational fluid mechanics. I have conducted experiments about small and large scales floating/underwater objects and developed numerical methods to validate the physical modeling and greatly enjoyed both. As the result I find myself drawn to the strong laboratory techniques mathematical modeling, and numerical methods in engineering.

I have 4 years of hands-on experience in laboratory experiment technics, data collection and post-processing. Currently, I am a postdoctoral scientist at UMass Amherst, working as a project leader. I worked on designing and development of a fluid-structure interaction experiments facility. This facility is equipped with a wave generator and a current recirculation flume tank to test the model scales of wave renewable energy devices and fluid-structure interaction experiments. I conducted CFD to predict and improve flow characteristics, uniformity and turbulence level.

For my MS thesis I developed a B-spline based code in FORTAN for computation of added resistance. I introduced an accurate method based on the potential flow assumption and Green's formula.

I had the opportunity to be a graduate instructor in mechanical engineering at University of Maine. I was teaching a graduate course with the topic of fluid-structure interaction. As an instructor, I was also supervising the graduate students' projects related to fluid-structure interaction and CFD research.

Along with my laboratory works and data analysis, I also have developed my techniques of project management and collaboration. Given the opportunity, I'm confident in my ability to achieve functional & cost effective designs for your company, therefore a good addition to your team.

I would enjoy discussing this position with you in the weeks to come. I am enclosing my curriculum vitae. Thank you very much for your consideration.

Sincerely,

Razieh Zangeneh