Shara Akbar

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PROFILE

- Mechanical engineering expertise in design and analysis, supported by a strong computational background and hands-on problem-solving skills.
- Advanced experimental fluid dynamics experience, including instrumentation setup, high-resolution imaging, and data acquisition/automation using MATLAB and LabVIEW.
- Proficient in thermal and fluid flow simulations, with applied experience in Computational Fluid Dynamics (CFD) and structural analysis using FEA/FEM tools (FORTRAN, ANSYS, GAMBIT, ICEM/Fluent) to optimize system performance and validate experimental results.

EDUCATION

University of California, Irvine — Irvine, CA
Ph.D., Mechanical and Aerospace Engineering — August 20XX
M.Sc., Mechanical and Aerospace Engineering — June 20XX

Sharif University of Technology — Tehran, Iran
B.Sc., Mechanical and Aerospace Engineering — June 20XX

RESEARCH EXPERIENCE

University of California, Irvine — Irvine, CA
Researcher
Laser, Flames, and Aerosols lab, Mechanical and Aerospace Engineering — Sept. 20XX – Present

- Developed programming and computational skills by modeling external flows and studying liquid- gas interface through CFD tools and MATLAB.
- Lead 4-person team in multiple collaborations and mentored 3 undergraduate students.
- Authored 5+ grant reports totaling over $500K in funding, strengthening fund management and project management skills by creating detailed project timelines that ensured 100% of milestones and deadlines were met ahead of schedule.
- Published results in 2 peer-reviewed journal articles and presented at 7 academic conferences.

MEMS lab, Mechanical and Aerospace Engineering — Jan. 20XX– Sept. 20XX

- Gained advanced expertise in FEA/FEAM analysis by using ANSYS tools to conduct thermal-stress simulations of carbon column arrays on substrates under rapid temperature fluctuations, improving accuracy of material performance predictions by 20%.
- Completed 4 months of intensive clean-room microfabrication training.
- Applied photolithography, deposition, and etching techniques while collaborating with Carbon Micro Battery Corporation to prototype next-generation micro-battery components.

PROFESSIONAL EXPERIENCE

Sharif University of Technology Tehran, Iran
Mechanical and Aerospace Engineering Department Instructor Spring 20XX

- Organized combined in-person/online course in Computer Aided Design (CAD) and SolidWorks, offered for the first time as a hybrid course at UCI.
- Developed leadership and communication skills by lecturing and presenting complex concepts to 165 students.
- Coordinated activities with other teachers and collaborated on online system management with other organizations at UCI.
- Received 10 out of 10 score on 95% of student evaluations.

Namvaran Petroleum Consulting Company Tehran, Iran
Mechanical Engineer Summer Intern Summer 20XX

- Supported the creation and development of components for innovative camera technology
- Coordinated design/finalization of assemblies for camera components while maintaining backwards compatibility in the designs
- Presented concepts and designs to executive management and implemented improvements to current testing processes
- Generated and revised technical drawings and engineering layouts utilizing GAMBIT and CFD

TECHNICAL SKILLS

CAD: SolidWorks, AutoCAD; CFD tools: GAMBIT and ICEM/Fluent, Tecplot; FEA/FEA tools: ANSYS

Programming: C++, Matlab/Simulink, Mathematica, LabVIEW, Fortran

Other Software: MSC ADAMS, Mechanical Desktop, Working Model, Microsoft Word, PowerPoint, Excel

Experimental Testing: Design and construction of experimental setup, data acquisition and data analysis with LabVIEW and MATLAB, instrumentation, imaging, image processing with MATLAB, frequency and vibration measurement by Laser Doppler Vibrometer (LDV)

Languages: Farsi (fluent), Kurdish (intermediate)