

## **Mir Al-Masud**

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Work Authorization: Permanent Resident(US Green Card).

## **Experience**

**April 2013 -Present : Siemens Industry Software,Milford,OH**

**Software Engineer - Advanced(Simcenter 3D,FE Solver support )**

- Design, develop, test, deploy, maintain, and improve Simcenter Nastran software build environment , and workflow monitoring platforms including Jira, Confluence, Perforce and in-house tools.
- Monitor and track regression in daily group builds, and identify responsible change packages by root cause analysis on FE analysis results .
- Develop and maintain backend system services - distributed systems, real time web applications, database etc for FE solver support(Nastran and Samcef).
- Mentor newer team members, intern/co-op students and manage tools enhancement projects.
- Collaborate with developers with various areas of expertise (i.e., Acoustics, Linear and non-linear structural analysis,Numerics,Dynamics,Rotordynamics,QA, QC etc ) ,and product owners to ensure smooth integration of in-house and third party software components.
- Facilitate and maintain the execution environment for Finite Element solution to Problems that requires Serial, Shared and Distributed memory environments.

**December 2010 - February 2013: Louisiana Tech University,Ruston, LA**

**Graduate Research Assistant**

- Ansys Parametric Design Language scripting to parameterize and automate FE simulations.
- 3D solid modeling using CAD software.
- Analyzing, data wrangling and preparing reports based on research findings.

## **Education**

**September 2010- May 2013**

Louisiana Tech University, Ruston,LA- MS in Engineering (Mechanical)

**March 2004- May 2009**

Bangladesh Univ of Engg. and Tech , Dhaka,Bangladesh- **BS** in Mech. Engineering.

## **Technical Skills**

- **Finite Element Method:**Experience in supporting development of finite element software, writing Test cases.
- **Computational Geometry:** openGL,openCV,VTK,CGAL.
- **Programming Expertise:** in Python, C and C++.

- **Build Management Tools:** GNU Make, and Microsoft Visual Studio, Intel oneAPI toolkit (HPC), and developing appropriate wrapper tools.
- Root cause analysis of performance and regression on solution sequences of nastran simulations.
- Expertise of Distributed and Shared Memory Parallel programming using Intel MPI and Python multiprocessing/threading libraries.
- Detailed understanding of Linux and Windows operating systems.
- Issue management using Jira.
- Full Stack Software Development with Python and Perl with HTML,PHP, JavaScript, Bootstrap on frontend, SQL,Redis,JSON,XML,CSV as data store.
- Scripting in perl, bash,sed awk and batch commands in windows.
- Managing task queue in a distributed system using Celery API and RabbitMQ as message broker.
- Software prototyping using UML.
- Understanding of network/file transfer protocols like udp,tcp,ssh,rdp,ftp,scp etc.
- Familiar with Siemens PLM software products such as Teamcenter.
- Developing wrapper tools around version control systems like Clearcase, Perforce, Git.
- Familiarity with Big Data programming platforms and tools like Hadoop, Mapreduce, Apache Spark.
- Expertise in Data Analysis and Visualization using pandas,numpy,matplotlib, plotly, chart.js etc.
- Desktop GUI development using Qt, TCL/Tk.
- Experience with complex CAD models using Autocad,Catia,NX-CAD,Femap.
- Microsoft Office applications.

### Other Skills

- Quick Learning ability of new languages,tools and environments.
- Ability to manage multiple tasks with minimal supervision.
- Problem solving skills in Solid and Fluid Mechanics, Physics and Mathematics.
- Leading a small team of interns and developers.
- Fluent in English,Bangla,Hindi and Elementary ability in German,Arabic,Spanish.

### Awards

Received Siemens YouAnswered Award in 2021

### Workshops and Specializations

- Google Project Management,Deep Learning Specialization in Coursera,Becoming a Product Manager Learning Path in LinkedInLearning and more.