Suba Siva Chandran Kalimuthu
Braunschweig, Germany
Phone: +49 151 7548 9000
subasivachandran@gmail.com

Dear HR Manager,

I am writing to express my interest in any open position in the field of FEM simulation. With good knowledge and experience in FEM simulation of components with regard to crash safety and analysis of BIW structures, I feel confident that I would be a strong addition to the team.

I completed my Master of Science in Computational Sciences in Engineering at TU Braunschweig, Germany. My favourite subject in the course was Finite element method, which increased my penchant for simulating and calculation using commercial software. This led me to take up a student job at the Institute für Füge- und Schweißtechnik at TU Braunschweig where I worked on various aspects such as fracture modelling, thermal-stress coupled problems, cohesive zone models implementation (using FE solver ABAQUS), development of material model (using FORTRAN subroutine), post-processing (using Python scripts) and analysis of adhesive curing rate (using MATLAB function). I also provided technical assistance to students and Hiwi's from the institute, as part of the job. I had extensive experience working with Linux environments, handling a local cluster and version controlling using Git.

To enhance my understanding of FE simulations, I did a student project (attached in my portfolio) on the theme "**Simulation of production process related adhesive damage of adhesively bonded multi-material BIW**". I used ABAQUS solver for predicting and analysing the temperature distribution in the entire BIW and ensuing structural deformations and adhesive stresses as a result of the CDP process. One of the main gains from this project was I learnt a lot about how to handle the BIW components using ANSA pre-processor and ABAQUS, since I had to build the workflow for the simulation from scratch. There were a lot of times when the simulations were unstable and terminated. I had a good experience tackling them individually and the results obtained is of greater use in mapping it to the PAM-CRASH solver to know in detail about the influence of process over crash performance. Since I enjoyed working on the project at GNS mbH, I took up a master thesis at GNS mbH on the topic "**Simulation of process induced deformations of fusion bonded hybrid components and potential analysis in a car model**".

In my master thesis, I devised a process simulation for investigating the deformations of fusion bonded hybrid components in ABAQUS. Another important achievement from this project is, I learnt the potential of using these hybrid components in

a Toyota Camry model as an illustration of lightweight design and evaluating the crash performance based on different load cases such as ODB, Pole & IIHS. The post processing was done using Animator 4, where I also grasped quickly to develop scripts of my own to visualize the BIW components in an uncomplicated way. Apart from the technical knowledge gained in my student project and Master thesis, I also developed my soft skills such as preparing documentation, reports, presentations.

From my aforementioned experiences, I see myself working in the field of simulation and calculation for vehicle-oriented processes. I also have a good interest in crash safety, and I see this position as a perfect opportunity for my future career.

Thank you for considering my application.

Sincerely,
Suba Siva Chandran