



SREEHARI O P

Metallurgical and Materials Engineering
National Institute of Technology Karnataka
Specialization: Process Metallurgy

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Examination	University	Institute	Year	CGPA / %
Post Graduation	NIT-K, Surathkal	NIT-K, Surathkal	2022	8.53
Graduation	APJAKTU, Kerala	College of Engineering, Trivandrum	2019	7.2
Graduation Specialization: Mechanical Engineering				
HSE	Kerala HSE	PKMMHSS Edarikode	2014	94.50%
AISSE	CBSE	MES Central School, Tirur	2012	9.6

KEY PROJECTS AND SEMINAR

• Cold Spray Additive Manufacturing of Superalloy IN718

(M.Tech Project, Advisor: **Prof. B.Rajasekaran**)

(Jul'21-Present)

Objective	• Improving efficiency of Cold spray additive manufacturing of IN718 using Modelling and Simulation
Work Completed	• Review on CFD Analysis of Cold Spray Additive Manufacturing • Designed an industry standard nozzle geometry for cold spray additive manufacturing using NX
Future Work	• Optimizing the process parameters in CSAM with the data available using machine Learning • Microstructure analysis using various microscopy techniques
Outcome	• Reduced Porosity and Compromise between strength and ductility of CSAM-ed Product

• Optimizing Process parameters in Single Point Incremental Forming (SPIF) of Al7075 alloy using Taguchi Grey Relational Analysis and Genetic Algorithm.

(B.Tech Project, Advisor: **Prof. C. Raju**, College of Engineering (CET) Trivandrum)

(Team of 4)

(Oct'18-May'19)

- The **objective** is **optimization of machine time and sum of strains** considering the process parameters such as tool diameter, feed rate, spindle speed and vertical step depth
- Optimized the obtained experimental data using **Taguchi Grey Relational Analysis** and **Genetic Algorithm**
- The tools used are **Computer Numerical Control (CNC)**, **ANOVA** protocol and **MATLAB**.

TECHNICAL SKILLS

- Design Software Packages - **Ansys** (Workbench, Fluent), **Siemens NX**, AutoCAD
- Programming Languages - **Python**, R Programming, **SQL**, C++, **MATLAB**, Octave
- Python Libraries - NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, Tensor flow, Keras
- Machine Learning & Deep Learning - Regressions, Neural Networks, Time Series forecasting, Decision Trees, SVM
- Data Visualization - Tableau, MS Excel
- Others - **CFD**, **FEA**, Data Analysis, **MS Office**

RESEARCH AND INDUSTRIAL EXPERIENCE

• Product Development Engineer (CAE Engineer) Intern

(Simulation Lab Pvt. Ltd, Pune)

(Sept'21- Present)

- Feature on wing flap to **enhance thermodynamic efficiency** in **Ansys Fluent**
- **Involved** in scientific research and development work with **10+** Multidisciplinary scholars

• Summer Intern at Kerala Automobiles Limited (KAL)

(KAL, Trivandrum, Guide: **Mr. Anoop Vijayakumar**)

(May'18)

- Underwent 4-week Internship at Kerala Automobiles Limited (KAL), Trivandrum

COURSE PROJECTS & WORKSHOPS

- **Finite Volume Analysis of Turbulent flow through an Airfoil Structure**
(A Hands-on Introduction to Engineering Simulations, Instructor: *Prof. Rajesh Bhaskaran*) (Aug'21)
 - Developed the solution to a **2D turbulent airfoil flow problem** in **Ansys Fluent**
 - Described how the **governing equations** need to be **modified** to account for turbulence
 - **Validated the numerical results** from Ansys Fluent by comparing with experimental data Provided by NASA
- **Fatigue Analysis of Fuselage Structure in Ansys Mechanical**
(B.Tech - Computer Aided Design and Analysis, Instructor: *Prof. Baiju Sasidharan*) (Mar'18)
- **Self- Project: Object-recognition using Deep Learning** (Jun'21)
 - Deployed a **convolutional neural network (CNN)** for object recognition.
 - Imported datasets from **Keras**, and **added layers to Keras** model.
 - Loaded pre-trained models and **made predictions** using a trained Keras model.
- **Workshop on Machine Learning in Material Science using Python**
(IIT-BHU Anveshan'21, Instructor: *Dr. Abhishek Kumar Thakur*) (Jul'21)
- **Seminar on Metallurgy of Welding**
(M.Tech Seminar ,Instructor: *Prof. Jagannath Nayak*) (Dec'20)

CERTIFICATIONS

- **Machine Learning** (June'21)
Stanford University | Coursera
 - Topics Involved: Linear Regression, Logistic Regression, Neural Networks, Support vector Machines, Unsupervised Learning, Anomaly Detection, Decision Trees
 - [Machine Learning stanford | ONLINE](#)
- **Machine Learning for Data Science and Analytics** (April'21)
Columbia University | edX
 - [Machine Learning For Data Science & Analytics](#)
- **Data Analytics for Business** (June'21)
Indian School of Technical Education (**ISTE**), NITK Chapter | SMP'21
 - Learned to **Import Datasets, Cleaning and Preparing the Data, MySQL , Summarizing the DataFrame, Model Development** (Regressions) and **Model Evaluation**
 - **Introduced to pandas**, and use it to load, manipulate, analyze, and visualize datasets, then introduced to **Tableau** for data Visualization and **used some of its machine learning algorithms to build smart models** and make predictions.
 - [ISTE'S Data Analytics For Business Certificate](#)

EXTRACURRICULAR ACTIVITIES

Activities	<ul style="list-style-type: none"> • Dedicated Hitter (D.H) Of the APJ Abdul Kalam Technological University Softball Team which participated in All India Inter-University softball Tournament, Rohtak, Haryana (2018) • Runner Up in Inter Collegiate Basketball Tournament, CET Trivandrum • Mechanical Engineering Department mentor of college Cultural fest "Disha'17", CET Trivandrum (2017) • Co-organizer of "Donate A Life"-an organ donation campaign in association with Kerala Network For Organ Sharing (KNOS). (2016)
Technical	<ul style="list-style-type: none"> • Secured 5th in Kagglethon competition by ISTE Crypt, NITK Chapter (2021)
Hobbies	<ul style="list-style-type: none"> • Playing Softball, Basketball, Chess, Swimming and Travelling

COURSES UNDERTAKEN (M.Tech)

(*Audit)

- Momentum, Mass and Heat Transfer
- Computational Fluid Dynamics*
- Surface Engineering/Coating Technology
- Techniques Of Material Characterization
- Physical Metallurgy
- Steel and their Heat treatment