

KIRAN KUMAR KABOTU



To work with an organization which provides continuous growth and challenging responsibilities in the research and developed related to Design and Semiconductor Manufacturing

Email: kirankabothu@gmail.com Phone: +91-9003105966 LinkedIn: Kiran Kabotu

Executive Profile

- Research interests in laser-matter interaction and Microscale heat transfer.
- Hands-on experience in finite element analysis using ANSYS and COMSOL Multiphysics software.
- APDL macros in ANSYS software.
- Automation of the F.E. simulations using JavaScript in COMSOL software.
- Hands-on experience in Structural and thermal analysis
- Expertise in solving the Multiphysics problem
- Overall, 3 years 4 months of professional experience in Design (CAD/CAE) and Manufacturing.

Education

- Ph.D. (Mechanical Engineering) from Indian Institute of Technology- Madras, India, CGPA of 8.33/10 (**July 2013 – expected to complete on May 2022**).
- M. Tech (Manufacturing Technology) from National Institute of Technology, Calicut, Graduated with CGPA of 8.13/10. (**July 2008- May 2010**).
- B.Tech. (Mechanical Engineering) from Vignan's Engineering College, Guntur, Graduated with 75.11 % (**July 2005- May 2008**).
- Diploma in Mechanical Engineering from Govt. Polytechnic College, Vijayawada Graduated with 68.44 % (**June 2000- May 2003**).
- S.S.C with 68% from S.S.C. Board, Andhra Pradesh (**June 1999- April 2000**).

Technical Skills

- CAD/CAM, Solid works, AutoCAD
- COMSOL Multiphysics, and ANSYS software.
- Programming in Matlab, Python
- JavaScript in COMSOL Multiphysics software
- APDL Macros in ANSYS software
- 3D Image reconstruction, Computed Tomography

Academic Projects

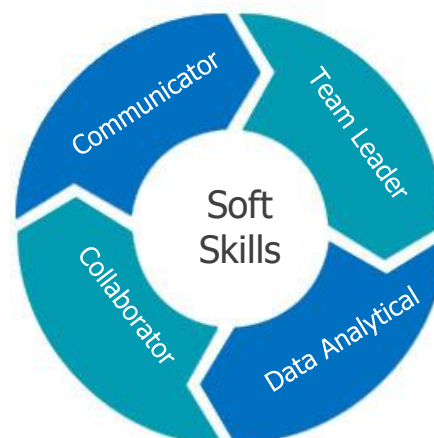
Machining and characterization of high aspect ratio micro shaped holes on high-temperature material using hybrid machining process. (ARDB sponsored project and budget: ₹ 2.38 Cores) (Feb 2015 -Feb 2017)

The central government (Aeronautical Research Development Board, India) sponsored project proposal was prepared and successfully implemented. The next-generation hybrid machine tool was developed to produce micro holes in the high-temperature material (superalloy) using micro EDM. and ultrashort pulsed laser processes. The micro-holes are produced on Ti6Al4V alloy by using ultra-short pulse laser micromachining. The standardized characterization technique was developed for the measurement of high aspect ratio micro holes. The ultra-short pulse laser drilled micro hole geometrical features were characterized using computational tomography.

Key Impact Areas

New Product Development (Microneedles)	Modelling and Process Engineering
Project Management	Multiphysics Simulation using FE software's
Manufacturing and Machine Learning	Process / Operational Excellence

Soft Skills



Professional Experience

Mechanical Engineer, Fire engineers India, WFH

April 2020-Sep 2020

- Risk assessment on the combustible cladding materials installed on the external walls of the buildings.
- Worked on heat radiation analysis for fire engineering.
- Prepared the fire engineering reports based on Building Code of Australia.

Scientist, Central Manufacturing Technology of Institute, Bangalore, India

July 2012-May 2013

- Design and development of a sphere lapping lathe tool attachment for the hip joint application
- Development and fabrication of hollow microneedles for drug delivery system.
- Hands-on experience in operating the ultra-short pulsed laser micromachining system
- Drafted the technical specifications of excimer laser micromachining system for MEMES application.

Engineer, QuEST India Pvt. Ltd, Bangalore, India

Aug 2010-July 2012

- Finite element modeling of the client provided CAD models as per the drawings.
- Expertise on development of APDL macros in ANSYS.
- Worked as onshore support (Quest) at G.E., Global Research Center, JFWTC, India
- Structural analysis of wind turbine bearing with a fully assembled model (hub, bearing, bolts, and blade).

Trainee Engineer, Gabriel India, Anand group, Gurugram, India

Aug 2003- May 2004

- N.C. coding
- Hands-on experience in operation Special purpose machine Tools

Academic gap

May 2004- June 2005

- Trained for CAD/ CAM programs
- Prepared for Entrance examination (ECET, AP)

Freelance Experience

Freelancer at Upwork

May 2021- present

- Worked with global clients and helped in solving scientific problems.
- Good communication and soft skills.

Part-Time Assignments

Project officer, ICSR, Indian Institute of Technology Madras

Nov 2020–April 2021

- Worked on Industry consultancy sponsored projects from the central govt. Funded organization.
- Prepared the technical reports
- Involved in the procurement process of sophisticated instruments.

Publications

International Journals

1. Kiran Kumar, K., Samuel, G. L. and Shunmugam, M. S. (2019) Theoretical and experimental Investigations of Ultra-short pulse laser Interaction on Ti6Al4V alloy, Journal of Materials Processing Technology, 263, 266-275.
2. Kiran Kumar, K., Samuel, G. L. and Shunmugam, M. S. An in-depth investigation into high fluence femtosecond laser percussion drilling of Titanium alloy, Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture (Accepted).
3. Kiran Kumar, K., Samuel, G. L. and Shunmugam, M. S. Phenomenological Investigation into Femtosecond Laser Percussion Drilling of Ti6Al4V Plate, Materials and Manufacturing Processes (Communicated).

Book Chapter

1. Kiran Kumar, K., G. L. Samuel, and M. S. Shunmugam (2019) Characterization of Geometrical Features of Ultra-Short Pulse Laser-drilled Microholes Using Computed Tomography. In: Narayanan R., Joshi S., Dixit U. (eds) Advances in Computational Methods in Manufacturing. Lecture Notes on Multidisciplinary Industrial Engineering. Springer, Singapore, 51, 603-614.



Personal Details

Date of Birth: 14th June 1984

Languages Known: Telugu, English, Hindi

Current Address: Arul cottage, 7th Avenue, Dhandeeswaram east Velachery, Chennai-42.