

Shashank H R

Full CV available at
shashankhr.com/cv

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Education

Indian Institute of Science
Bachelor of Science in Materials
Bangalore, India | Class of 2016
GPA: 7.5/8.0 | Position: 1st of 30

Coursework

Full list: shashankhr.com/courses

Graduate level

Computer Aided Design
Management of Innovation and IP
Materials, Manufacturing and Design
Polymer Science and Engineering
Introduction to Biomaterials
Microstructural design and Development
of Engineering Materials

Undergraduate Level

Introductory courses in Physics, Chemistry,
Mathematics, Biology and Engineering
Algorithms and Programming
Introduction to Materials
Structure of Materials
Materials Thermodynamics
Electronic Properties of Materials
Elements of Solid Mechanics
Materials Kinetics
Introduction to Materials Processing
Mechanical Behavior of Materials

Skills

Scientific Tools

OriginPro, Wolfram Mathematica, LaTeX.

CAD Tools

Autodesk Alias, SolidWorks.

Design and Image processing

Adobe InDesign, Adobe Photoshop, Adobe
Illustrator, Adobe Premiere Pro.

Programming Languages

C, Matlab.

GRE Scores

Verbal Reasoning: 164/170, 94th %ile
Quantitative Reasoning: 168/170, 95th %ile
Analytical Writing: 5.0/6.0, 93rd %ile

Research Experience

(More at shashankhr.com/research)

Georgia Tech | Direct Digital Manufacturing Lab | Bachelor's Thesis
May–Dec 2015 | Prof. Suman Das | ddm.me.gatech.edu

Title: Design-of-Experiment Based Process Optimization for Single-Crystal CMSX-4[®] Ni-based Superalloy Processed Through Scanning Laser Epitaxy (SLE)

- Learned about additive manufacturing technologies that can be used for metals in general, and for Ni-based superalloys in particular.
- Understood the conditions that favour epitaxial growth of crystals, and how they can be utilized for obtaining deposits that are microstructurally continuous with the underlying substrate.
- Performed experiments as a part of a Design-of-Experiment based process optimization for the single crystal Ni-based superalloy CMSX-4, to determine the best parameters.
- The experiments were followed by metallography and characterization.

GE Global Research | Manufacturing and Materials Technologies | Internship
May–July 2014 | Evaluation at shashankhr.com/gecert

Title: Investigation of recrystallization due to compression straining in Ni-based superalloy GTD 444

- Learned about Ni-based superalloys, particularly Single Crystal (SX) and Directionally Solidified (DS) superalloys, used in jet engines and gas turbines.
- Gained exposure to the scale of R&D operations in Industry. Became aware of magnitude of specificity of research, contrasting the freedom in academia.
- Understood the importance of microstructure, and how subtle changes therein could result in large changes in macroscopic properties.
- Understood the criticality of Solution Heat Treatments (SHT).
- Performed systematic metallographic analysis on the heat-treated samples in an effort to find recrystallized grains.
- Analyzed and quantified micrographs using image processing techniques.

Indian Institute of Science | Materials Engineering | Summer Project
May–July 2013 | Prof. Praveen Kumar

- Studied flow pattern formation due to liquid electromigration and thermomigration in Gallium.
- Worked in nanofabrication and nanocharacterisation facilities (in the cleanroom), at Centre for Nanoscience and Engineering, IISc.
- Learned to use a Micro System Analyzer, an instrument used to visualize surface topography.
- Gained experience with image and video processing techniques, and mathematical analysis tools.

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- Recipient of the prestigious KVPY fellowship, awarded by the Department of Science and Technology, Government of India.
 - Student member of the Additive Manufacturing Society of India (AMSI).
 - Attended the 4th International Conference on Additive Manufacturing Technologies – *The Defence-Aerospace-Automotive-Biomedical Summit 2014*, Bangalore, India
 - Attended Vijyoshi 2012 at IISc Bangalore, India, a Science camp organised by the Department of Science and Technology, Government of India on the lines of the Lindau Meet with Nobel Laureates.