

Jay Divyesh Mehta

| Email: jaydm26@ucla.edu | LinkedIn: jaydmehta | Website: jaydm26.github.io |

Education

University of California, Los Angeles (UCLA), Los Angeles, USA **September 2018 – June 2019**

Master of Science in Mechanical Engineering with a GPA of 3.711/4.

Relevant Courses: Foundation of Fluid Dynamics, Viscous Fluid Dynamics and Turbulence, Numerical Methods for Incompressible Flows, Modern Compressible Flows, Convective Heat Transfer, Radiative Heat Transfer, Microscopic Energy Transport

Dwarkadas J. Sanghvi College of Engineering, Mumbai, India **August 2014 – June 2018**

Bachelor of Engineering (B.E.) degree in Mechanical Engineering with a CGPA of 8.88/10.

Relevant Courses: Thermodynamics, Fluid Mechanics, Heat Transfer, Refrigeration and Air Conditioning, Thermal Fluid Power Engineering, Computational Fluid Dynamics.

Undergraduate Thesis Project: “Heat Transfer Augmentation Using Surface Modifications on Extended Surfaces”

Skills

Coding Languages	Python (Script, NumPy, Keras, TensorFlow), MATLAB, Julia, C++, HTML.
Engineering CAD/Modeling Software	SolidWorks, Autodesk Inventor, AutoCAD.
Engineering Analysis Software	ANSYS Fluent, ANSYS CFX, ANSYS ICEM, OpenFOAM.
Relevant Skills	Computational Fluid Dynamics (CFD), Multi-variable Optimization, Machine Learning (ML), Finite Difference Methods (FDM), Finite Volume Methods (FVM).

Projects and Research Experience

Navier-Stokes Solver **April 2019 – June 2019**

- Created a Navier-Stokes Solver using the Immersed Boundary Projection Method on MATLAB.
- Simulated flow past a cylinder using the Crank-Nicholson scheme and 2nd order Adam’s Bashforth scheme.
- Reviewed concepts on unit testing, debugging, and maintaining code using Git for software development.

Thermal Energy Storage Systems using Encapsulated Phase-Change Materials

June 2017 – August 2017

- Applied Finite Difference and Finite Volume Methods to model a thermal energy storage system on MATLAB.
- Obtained first and second law efficiencies for sensible and latent-heat based thermal energy storage systems.
- Performed parametric analysis to identify trends of change in first and second law thermodynamic efficiencies for Encapsulated Phase-Change Materials.
- Performed multivariable optimization to reduce the cost of the system by 6%.

Heat Transfer Augmentation from Extended Surface Using Dimples

November 2016 – June 2018

- Engineered a 10% increase in heat transferred from modified extended surfaces as compared to unmodified extended surfaces by the milling of dimples on the surface of the extended surfaces.
- Created 3D parametric computer models using SolidWorks for Computational Fluid Dynamics (CFD) analysis and manufacturing of extended surfaces.
- Obtained data for thermal and flow analysis using CFD simulations on ANSYS Fluent.
- Performed data analysis on MATLAB to obtain increase in Nusselt number from an unmodified extended surface.

DJS SkyLark

August 2015 – March 2016

- Designed and fabricated a remote-controlled aircraft in 20-member team to compete in the SAE Aero Design competition in Fort Worth, TX, USA.
- Designed, analyzed, and manufactured the wing for the remote-controlled aircraft using hand-calculations, ANSYS Fluent, and XFLR5.
- Selected, tested, and implemented the avionics devices that included motors, speed controllers, batteries, etc. required on the aircraft.
- Performed take-off and drag analysis for the remote-controlled aircraft.
- Suggested design modifications based on hand-calculation and CFD analysis to reduce drag.
- Developed a PID device to restrict energy consumption of the aircraft to under 1kW.

Internship

Indian Institute of Technology – Bombay (IIT-B)

June 2017 – August 2017

Research Intern

- Worked on a thermal energy storage system project based on encapsulated phase change materials.

Larsen & Toubro, Mumbai, India

June 2016 – July 2016

Trainee Intern

- Collaborated with machine operators to review fabrication processes and create parts that met design specifications.
- Reviewed writing codes (G-code) for machining parts on a CNC milling and CNC lathe machine.
- Assisted engineers in managing and updating changes initiated through Engineering Change Requests (ECRs) provided by the production department.
- Assisted the quality assurance engineer in measuring fabricated parts using CMMs, Go-No Go gauge, and digital vernier calipers.

Publications

Mehta JD, Colah FN, Rao AP, Pendse VP, Bagal VU, Ajmera KP. Heat Transfer Augmentation From Extended Surface Using Dimples. ASME. ASME International Mechanical Engineering Congress and Exposition, Volume 8B: Heat Transfer and Thermal Engineering ():V08BT10A024. doi:10.1115/IMECE2018-87345.

Certificates

- Completed a 60-hour course on designing in SolidWorks at CADD Center, Mumbai, India.
- Completed a 60-hour course on “Application of MATLAB and Arduino in Mechanical Engineering” at the Dwarkadas J. Sanghvi College of Engineering, Mumbai, India.
- Completed a certification course on “MATLAB Programming for Numerical Computations” from the National Programme on Technology Enhanced Learning (NPTEL), India.
- Completed a certification course on “Computational Fluid Dynamics” from the National Programme on Technology Enhanced Learning (NPTEL), India.

Extra-Curricular Activities

Chairperson, Chancellor’s Challenge, NMIMS University

June 2017 – February 2018

- Led a team of 30 multi-disciplinary members to promote and propagate the entrepreneurial community at the NMIMS University, Mumbai.
- Successfully organized a 2-day Boot-Camp event on business administration, finances, and product development.
- Provided monthly updates to the board of trustees at the Chancellor’s Challenge, NMIMS University, Mumbai.

Achievements

- Won 3rd Prize for Oral Presentation in the Regular Class at SAE Aero Design and finished 2nd among all Asian teams.
- Awarded the “Certificate of Appreciation” by the Vice Chancellor of NMIMS University for my service to the success of the Chancellor’s Challenge.
- Awarded “Best Project in Mechanical Engineering” by the Department of Mechanical Engineering at Dwarkadas J. Sanghvi College of Engineering.