

## CONTACTS

✉ harivinay.varadaraju@gmail.com

☎ +91 7483084584

📍 Bangalore, India

## LINKS

🌐 [linkedin.com/in/vharivinay](https://www.linkedin.com/in/vharivinay)

🔗 [vharivinay.github.io](https://github.com/vharivinay)

## EDUCATION

### MSc. Mechanical Engineering

Linköping University  
09/2017 - 04/2021

### B.Tech. Mechanical Engineering

Alliance University  
09/2012 - 06/2016

## TECHNOLOGIES

🔖 Git

🐧 GNU / Linux

## MISC. SKILLS

📄 L<sup>A</sup>T<sub>E</sub>X

⚙️ Machine Learning

🔗 Julia Language

🔗 JavaScript

📱 Android Development

🔗 Web Development

## INTERESTS

★ Astronomy

🔗 Creative Coding

🔗 Opensource Contribution

## LANGUAGES

English [Proficient]

Telugu [Native]

Kannada [Independent User]

Hindi [Independent User]

# HARIVINAY VARADARAJU

Graduate, MSc. Mechanical Engineering

## PROFILE

I am a graduate mechanical engineer with specialization in applied mechanics. I have experience in mathematical modelling and simulation of computational fluid dynamics systems, computational heat transfer and solid mechanics. My interests are in mathematical modelling, simulation and scientific computing.

## SKILLS

### Technical Skills

- Numerical Analysis & Linear Algebra
- Fluid Flow & Turbulence Modelling
- Heat Transfer and Multiphysics Modelling
- Structural Analysis & Material Modelling

### Computing Skills

- Python
- MATLAB
- ANSYS
- OpenFOAM

## EXPERIENCE

05/2021 - Present

Bangalore, India

### Freelance Developer

- Web and Mobile development.
- Opensource Contributions

05/2020 - 03/2021

Linköping University

### Thesis Student

Validation of Black-and-White Topology Optimization Designs.

- Improved the solver's quality of output geometry to have smooth and crisp boundaries.
- Minimized the post processing time to have an FE ready geometry for further analysis.
- The project used techniques and principles from mathematical optimization, image processing and signal processing.

09/2019 - 01/2020

Linköping University

### Student Consultant

Gas Turbine liquid fuel distribution system exposed to high temperatures.

- Propose and evaluate design solutions for a secondary fuel distribution system in a gas turbine.
- The project involved **structural analysis, computational fluid dynamics**, and computational heat transfer aspects.
- My role was to setup and **perform multi-physics simulations** focusing on **heat transfer within the liquid fuel** during transport.

01/2016 - 06/2016

Alliance University

### Thesis Student

Conceptual design and prototyping a possible solution to introduce automation into micro, small and medium scale industries in India.

02/2016 - 05/2016

BVR Industries

### **Intern**

A Case Study on FG 260 Grey Cast Iron involving Surface Chemical Composition analysis and Surface roughness after machining.

## **PUBLICATIONS**

### **Master's thesis**

**Title:** Validation of Black-and-White Topology Optimization Designs

**Url:** <http://urn.kb.se/resolve?urn=urn:nbn:se:liu:diva-174807>