VIGNESHWAR K R

Email : v.karuppiah-ramanathan@tu-braunschweig.de
Contact No : +49 15237712988
Address : Münchenstraße 22
38120 Braunschweig
Portfolio : https://vigneshwar-kr.github.io/Vigneshwar/index.html
Github : https://github.com/Vigneshwar-KR
LinkedIn : vigneshwar k r

PERSONAL DATA

Nationality : Indian
Given Name : Vigneshwar
Surname : Karuppiah Ramanathan

TEST SCORES

- TU Braunschweig B1.1
  - Date : 09 Feb 2023
- TU Braunschweig B1.2
  - Date : 20 July 2023
- IELTS
  - Date : 14 Nov 2021
  - Overall : 7.5
- Goethe Zertifikat A2
  - Date : 12 Oct 2019
- Goethe Zertifikat A1
  - Date : 1 May 2019

LANGUAGES

Tamil
Native

English
Ielts 7.5

German
B2.1

ACADEMIC BACKGROUND

Technische Universitat Braunschweig — *Oct 2022-Present*
M.Sc. Computational Sciences in Engineering

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY — *Jul 2016-Jul 2020*
B Tech in Mechanical Engineering — Score: 86.34 %

NSN MATRIC HR SEC SCHOOL — *Mar 2015-Apr 2016*
Higher Secondary — Score: 90.33 %

SRDF VIVEKANANDA VIDYALAYA — *Mar 2013-Apr 2014*
Central Board of Secondary Education — Score: 9.6 / 10

PROJECTS

Parallel implementation of Laplace 2D problem — *June 2023 –July 2023*

- As part of my Parallel distributed computing course, Laplace 2D problem was parallelly implemented message passing library using MPI.

QuickKart and TravelAway website — *June 2021 –July 2021*

- Developed two web applications (*shopping and travel company*) as a part of .NET Full Stack Development training in Infosys.

Simulation of Cost Optimal 3d Environment Mapping Using Dual Axially Rotating Lidar Sensors — *Aug 2020 – Sept 2020*

- Engineered and programmed an innovative mechanical system containing dual axially rotating wheels which makes use of few sensors to reach most of the 3D space efficiently.
- The mathematical model of the system is simulated and the lidar's 3D space is mapped in *SCILAB* software using various parameters.

Experimental Investigation and Analysis of Heat Pipe — *Feb 2020 – April 2020*

- Fabricated a heat pipe setup with an Arduino-based temperature logging system, the efficient way of heat transfer is found by calculating thermodynamics characteristics under different input conditions.

Arduino Based Surveillance Rover — *Sept 2019 – Nov 2019*

- Designed, programmed, and fabricated a Bluetooth controlled Arduino-based rover using Arduino UNO, DC motors, and bridge motor dual driver.

Design and analysis of quadcopter frame structure — *Feb 2019 – Mar 2019*

- Designed and modeled Quadcopter frame model in NX 10. Analyzed the model to check the reliability of the body in Ansys Workbench.
- Static analyses are carried out based on the calculation of the magnitude of thrust produced by each motor and the weight of each component.

Tkinter GUI application to automate beltdrive system design — *Nov 2018 – Jan 2019*

- Developed an application to automate the design process of a flat belt drive system.

CONFERENCES / PRESENTATIONS

- Presented a paper on Resilience optimization of octocopter drones using two-stage thrusters and thrust vector locking at IEEE Global Conference for Advancement in Technology.
  Vigneshwar, Ranjit Roshan and Noufal — *Bangalore, Oct 2019*
- Presented a paper on Experimental analysis of emission characteristics in I.C engines using catalytic convertor coated with Titanium dioxide and cobalt oxide catalyst in National Conference on Current Research Outcomes in Mechanical Engineering. — *SRM-IST, Chennai, Mar 2019*

IN-PLANT TRAINING

ILJIN AUTOMOTIVE PVT LTD
(May 2018 – Jun 2018)

- Engaged in the assembly of disc brake wheel axles and machining of its individual components.
- Gained industrial knowledge of manufacturing of various interior components of the automobile like door checker, control arms, and various joints.

POSITION OF RESPONSIBILITY

- Football team Captain
  SRM-IST, Vadapalani
  July 2019 – April 2020

- Student Coordinator
  KRATORQ'19
  SRM-IST, Vadapalani
  Sep 2018 – Sep 2020

- House Captain
  NSN Group of Schools, Chennai
  June 2014 – May 2016

EXTRACURRICULAR ACTIVITIES

- Represented a private football club in the first division league for 3 seasons, participated, and won in various tournaments.

- Represented my university football team and won in various football tournaments.

- Volunteered in Sushanthi Seva, a community welfare organization from time to time since my schooling. Activities in assisted living facilities, retirement homes, and Emergency response activities during floods.

TECHNICAL SKILLS

Applications

Beginner :
Ansys Fluent, Additive manufacturing, LaTex, Pandas, TensorFlow, NumPy, Qt

Intermediate :
AutoCAD, Catia, NX Unigraphics, Ansys Workbench, Arduino, MATLAB, Scilab, OpenCV, Cmake, Computer Vision

WORK EXPERIENCE

TU Braunschweig (Studentische Hilfskraft) *July 2023 – Present*

- Working as HIWI in visually assisted autonomous landing of eVTOLs and fixed wing aircraft project.
- Assisting with image processing algorithm and computer vision tasks for vertipad detection, ArUco markers.

Infosys *April 2021 – June 2022*

- Worked as a software developer under the Data and Analytics Legacy development team (DNA) in the finance domain with agile methodology.
- Predominantly developed REST backend API using Node.js, Express.js, and MongoDB. Used Mocha, Chai for unit testing JavaScript code.
- Developed and incorporated data marts, data warehousing, and ETL process using MS SSMS for providing business intelligence solutions.

Simulation Lab (*Research Intern*) *Feb 2021 – April 2021*

- Analyzed aerofoil for generating high lift and tried to increase the aerodynamic efficiency of the wing by adding a feature below the wing flap.
- Analysis was conducted for various Parameters with different feature designs, angle of attack, and range of velocities. For each data, simulation was carried out in Ansys Fluent and then the parameter of the wing with the maximum efficiency (Lift-Drag ratio) is selected.

Arobot (*Intern*) *Sept 2020 – Dec 2020*

- Designed various engineering applications using AutoCAD, NX Unigraphics.
- Collaborated and designed new industry automation applications.

IP RINGS LIMITED (*Intern*) *May 2019 – Jun 2019*

- Worked in manufacturing of different gears used in the differential unit.
- Worked in tool drafting and designing in AutoCAD and Catia V5.

CERTIFICATION COURSES

Supervised and Unsupervised Machine learning (Python) *Coursera*

- Linear and logistic regression, neural network, decision trees, classification, clustering and basic practices followed, Case studies and projects.

Diploma in Product Design and Analysis *CADD Centre*

- AutoCAD 2D, CATIA, Ansys Workbench, GD&T

Siemens NX Unigraphics *Udemy*

- Drafting, Assembly, Part Modelling, Surface Modelling.

WORKSHOPS

Computer vision and Image processing *MIT, Chennai, Mar 2019*

- Image processing using Python – OpenCV.
- Face recognition and drone path programming using DJI Tello SDK.

Artificial intelligence and Machine learning *SRM-IST, Chennai, July 2019*

- AI, ML, deep learning and their applications.
- Popular algorithms, tools, Gartner cycle, and current trends.

Robotics Workshop (Isensobots) *SRM-IST, Chennai, Aug 2016*

- Programming various sensors and modules using Arduino UNO and MEGA.
- Developing Line following robot and obstacle avoiding robot.

PROGRAMMING

Beginner – C#, Java
Intermediate – C++, JavaScript, Python, DBMS, SQL, HTML, CSS, Git

DATABASE TOOLS: Microsoft SQL Server, MongoDB
IDE'S : Microsoft Visual Studio and VS Code, Jupiter, CLion
CLOUD COMPUTING SERVICE and PROJECT MANAGEMENT PLATFORM:
Microsoft Azure, Jira, Confluence