



DARSHAN BAKILANA RAMESH

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ABOUT MYSELF

Perseverance and fast learning ability, Good Communication skills, Ability to work in a group, Problem-solving nature, having self-confidence.

SKILLS

Programming & Scripting

Python / Java / C++ / MATLAB / Octave / Bash / SQL

Platforms & Environments

ROS / Raspberry Pi / Visual studio code / JetBrains IntelliJ IDEA / PowerShell / Github / Jupyter Notebook

DevOps & Tools

Ubuntu (Linux) / Docker / Git / Project management (JIRA) / Atlassian Confluence / Gradle / Shell Scripting / CI/CD

Modelling & Additional Tools

Catia / Unigraphics (NXCAD) / Revit / Ansys / Fusion 360 / AutoCAD / QGIS / Autodesk Inventor / Lightroom / Microsoft Office

PROJECTS

[04/2025]

Masters Thesis - Extraction and Analysis of Dataset Constraints for Plausibility of Data

- Developed methods to extract and compare dataset constraints using both **Human-written** and **Machine-learned** approaches.
- Generated datasets from classifiers (**Decision tree** and **Support vector machine**) disagreements. Analysis of both Human-written and Machine learned (**Isolation Forest**) methods for **Automating constraint detection** and **Outlier Identification**.
- Developed methods to generate **plausible datasets** automatically, that fully adhere to the identified constraints using formal reasoning via **SMT solvers**
- Language: **Python, SMT-LIB**
- Libraries and Environment: **NumPy, Pandas, Scikit-learn, PyTorch, Visual Studio Code, Z3, Jupyter Notebooks, Matplotlib, MLDiff**

Link: <https://github.com/DarshanBakilanaRamesh/constraints-extraction-analysis-plausibility>

Masters Project – Software Engineering for Trusted Autonomous Vehicles

- Developed software framework for (small-scale or virtual) autonomous vehicles. Implemented **Lane detection** (Image processing), **Object recognition, Object detection (Lidar)**, planning and executing manoeuvres, **software architecture** and interfaces, and **software quality assurance** (testing, simulation).
- Software: **Ubuntu 20.04, Python (OpenCV, Numpy), ROS (Noetic), Rviz**
- Hardware: **Lego EV3, Raspberry Pi**

Link: <https://github.com/se-buw/setav/tree/master>

Bachelor Project – Design and fabrication of pesticide spraying robot


- Designed and developed pesticide spraying robot. Analyzed the robot motion in various terrain conditions. Developed a control scheme for navigation and efficient spraying mechanism.
- Software: **C++, Catia, Ansys, Autodesk Inventor**
- Hardware: **Arduino mega 328, L293D H-bridge IC**

Link: <https://drive.google.com/file/d/1CZwvNyxZC9FbP8-HEilGmxqjTH4gZ8L/view?usp=sharing>

Diploma Project – Fabrication of three wheeled handicapped steering propulsion

• Software: Catia

WORK EXPERIENCE

 **CONTINENTAL** – Lindau, Germany

City: Lindau | Country: Germany

Link https://drive.google.com/file/d/1XXKYDv3uNGKkac5cbEu16gk1Vngb59ZY/view?usp=drive_link

Intern in Software Development (Linux)

[15/08/2022]

- Supported the bring-up of a **Continuous Integration (CI)** system which involves integration and testing of software products running on a High-Performance Computing System (HPC).
- It is based on **Linux** and the major tasks were **scripting (PYTHON)** and documenting (**JIRA AND CONFLUENCE**).
- Software: **Python, Github, JIRA, Confluence**

 **Ace Micromatic Group (AMG)** – Bangalore, India

City: Bangalore | Country: India

Intern in CNC machines Department

[07/2018]

- Interned on various series of CNC lathe machines (Jobber, Superjobber, and LT series) and tests like Ballbar, geometrical, laser, coolant, profile, load, and final inspection.

 **Hindustan Aeronautics Limited (HAL)** – Bangalore, India

City: Bangalore | Country: India

Intern in Aviation Department

[06/2018]

- Interned under Aircraft division which covers about structural sub-assemblies such as Doors, Pylons, Fairings, Drop Tanks, Control Structures, etc.
- Learned about Precision sheet metal forming (Cold or Hot Forming) and welding of Aircraft components out of light alloys, various heat treatment processes, Aircraft Transparencies, landing gears, and final inspections.

 **Bangalore Metropolitan Transport Corporation (BMTCL)** – Bangalore, India

City: Bangalore | Country: India

Intern in Automobile Department

[02/2018]

- Interned on bus components like engine, transmission, differential, clutch, brake system and also an overview on bus body design.

EDUCATION AND TRAINING

Masters in Digital Engineering

Bauhaus university weimar [04/2025]

Country: Germany | Website: www.uni-weimar.de | Field(s) of study: Computer Science and Engineering | Final grade: 2.6

Modules: Object-oriented Programming, Algorithms and Data Structures, Software Engineering, Machine Learning, Statistics, Photogrammetric Computer Vision, Image analysis and object recognitions, Advanced BIM, etc

Bachelors in Mechanical Engineering

Dayananda Sagar College of Engineering [2019]

City: Bangalore | Country: India | Final grade: 1.73

LANGUAGE SKILLS

Mother tongue(s): Kannada

Other language(s): Telugu | Tamil | Hindi

German

LISTENING B1 READING B1 WRITING B1

SPOKEN PRODUCTION B1 SPOKEN INTERACTION B1

English

LISTENING C1 READING C1 WRITING C1

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user

HONOURS AND AWARDS

[02/2023] Udemy

Certificates of completion

- Java programming masterclass
- Python programming masterclass

[2019] Dayananda Sagar college of engineering

Awarded ‘Best Innovative Project’ in the project exhibition

[2019]

Paper presentation on ‘Design and fabrication of pesticide spraying robot’

- Certification in MAHAYANTRA 4.0 students National conference.

HOBBIES AND INTERESTS

Photography, Karting, Cookery, Dance, PC games

I hereby declare that the above-written particulars are true to the best of my knowledge and belief.

Weimar, Germany