# Devyani Tushar Maladkar

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## Education

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|---|---|---|
| **MS, Computer Science**, University of Texas at Austin. | 4/4 | 2022 – 2024 |
| **BTech, Computer Science and Engineering (Gold Medalist, Institute Rank 1)**, Indian Institute of Technology Goa | **9.95/10** | 2018 – 2022 |

## Skills

**Computer Skills**    C++ (proficient), Python (proficient), R, Bash, HTML, Java Script, Java, Latex, MATLAB.

**Software Skills**    PyTorch , Tensorflow, MATLAB, Gurboi, Jupyter, RStudio.

## Experience

**MathWorks India Private Limited, Hyderabad.**
**Intern, Engineering Development Group.**                                               [July 2021 - Nov 2021]
- **Developed C++ software component**, alongside the AUTOSAR and SLRT prototyping team, for **improving performance of existing Simulink Calibration Tool**.
- Developed industry level code in C++ and MATLAB and performed testing of component.

**Summer@EPFL, École Polytechnique Fédérale de Lausanne.**
**Research Intern, Intelligent Global Health, Machine Learning and Optimisation Lab.**                    [June 2021 – Sept 2021]
- **Developed modifications to existing Contrastive Learning algorithms** in Computer Vision. **Successfully adapted and evaluated performance for Lung Ultrasound Videos** to perform COVID-19 diagnosis.
- **Analysed and designed experiments** for using Lung Ultrasound Videos in contrastive learning settings for COVID diagnosis.
- Performed extensive study of self-supervised approaches and detailed literature review. **Developed code in Python, using VISSL library and PyTorch framework** for experiment design and analysis.
- **Presented work virtually at the Geneva Health Forum**. The theme of the conference was "COVID-19 Pandemic and Environmental Emergency: Reinventing Global Health in a Time of Global Change".

**Indian Academy of Science Fellowship: Indian Institute of Technology Bombay.**
**Research Intern under the guidance of Prof. J Adinarayana.**                              [Aug 2020 - Sept 2020]
- **Contributed** to developing a visualisation tool for geo-spatial analysis, by **collaborating with the interdisciplinary team** at the Agroinformativs lab at IIT Bombay.
- **Designed and built visualisation platform** [Link] for drone-sensing outputs using OpenLayers javascript Library and performed data analysis using Python. The platform was developed to be user friendly for scientists and interactive for more flexibility in visualisation and analysis of the agriculture data. Various visualisation libraries in Python and JavaScript were tested.

## Projects

**Android Malware Detection**
*Under the guidance of Dr. Peddoju Sateesh Kumar, Indian Institute of Technology Roorkee.*                    [May 2020 – July 2020]
- Developed an **Android Malware Classification** approach for recognising android malware from benign ware, in Python.
- **Python script and web-harvesting tools** were also developed for dataset preparation tasks.

**Application of Network Flow Algorithms to Transport System**                                      [May 2020]
- Worked in a team of 2 for developing application of network flow algorithms in the Bus Transportation system for Shahapur Taluka.
- Data processing of Bus routes and algorithm application was done using Python libraries - numpy, pandas, NetworkX. The objective was to provide an occupancy analysis for the current bus infrastructure,using Network Flow algorithms .

**Reusable Sanitary Pad Washing Device**                                                [May 2019 – June 2019]
- Worked alongside a co-inventor on a one of a kind-"Reusable Sanitary Pad Washing Device". The machine is a mechanical sanitary pad washing device, which uses specially designed diaphragms for the cleansing action.
- **A provisional patent was drafted and filed (in 2019)in India and USA, for the device.**

## Achievements

- **Awarded the President of India Gold Medal for being the Most Outstanding Student of Bachelor of Technology (2022).**
- **Presented Poster (Virtually) at the Geneva Health Forum 2021.**
- **Awarded for Technical Excellence 2018-2019 by Prof. B.K. Mishra, Director of IIT Goa.**
- **Awarded for Academic Excellence 2018-2019 by Prof. B.K. Mishra, Director of IIT Goa.**
- Provisional Patent filed in 2019 for "Reusable Sanitary Pad Washing Device" in India and USA.
- Topped the course titled HPC Shiksha : Basics of High Performance Computing conducted, in 2020, by National Supercomputing Mission.
- Selected in the All India Top 4 teams for Smart India Hackathon-2019.
- Article published (March 2021) in the Indian Express .