



# Vidya G

Reg No: 17BEC1214

B.Tech – ECE

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<https://www.vidyaganesh.com>

## EDUCATION

Year	Degree / Certificate	Institute / Board	CGPA/Percentage
2021	B.Tech	Vellore Institute of Technology	8.4
2017	Senior secondary	Karnataka PUE	89.6(PCME)
2015	Secondary	CBSE board	8.6

## EXPERIENCE

- **R&D Intern at ERICSSON INDIA, Chennai** July 2020 - present
  - Multiagent Reinforcement Learning with dynamic goals for 5G bandwidth slicing. (developed custom environments resembling the 5G use case with gym, PyMARL and RLlib frameworks)
  - Developed a multi-student knowledge distillation framework which compress the DL models to upto 80% for edge devices. (Secured Global Rank 2 at the ITU AI/ML in 5G Challenge.) [\[GitHub\]](#)
  - Developed disentangled DL models with a novel loss function to produce highly uncorrelated feature space, reducing the inference time significantly by learning only the essential features.
  - Developed a novel indoor localization technique to enhance indoor Li-Fi technology using camera communication.
- **Remote Research Associate - MORSE STUDIO** April 2020 - present

Developed a non-intrusive web-application for human psychoanalysis using graphology that identifies potential mental disorders and learning disabilities. (Prospective NIH proposal) [\[Web-App\]](#)
- **FLSmidth Pvt Ltd, Chennai** May 2019 - July 2019

Designed and Programmed Cement Mill operation and Raw Material Handling using ECS SCADA and PLC (Siemens step7)

## JOURNAL

- Yashavini Vishwanath, **Vidya G**, Sethuraman TV, Savina Singala, Ashwin Ashok, “Human Psychological report generation using Automated Graphology” Submitted to *IEEE Transactions in Mobile Computing 2021*.
- Thirvikram, **Vidya G**, Sethuraman TV, Satheesh K.Perepu, Saravanan Mohan. “Multi-Student Knowledge Distillation for Effective Model Compression” Submitted to *International Telecom Union, J-FET 2021*.

## CONFERENCE PUBLICATIONS

- Thirvikram, **Vidya G**, Sethuraman TV, Satheesh K.Perepu. “Efficient Knowledge Distillation of Teacher Model to Multiple Student Models” Submitted to *IAICT 2021*.
- Kartik Joshi, **Vidya G**, Soumya Shaw, Abitha K Thyagarajan, Akhil Pathak, Rahul Hemal Shah, Ram Kishan V, and John Sahaya Rani Alex. “Anomaly Detection in Drones with Machine Learning Algorithms”. Published *Virtual International Conference on Futuristic Communication and Networktechnologies (VICFCNT2020)*
- Soumya Shaw, Kartik Joshi, Abitha K, Akhil Pathak, **Vidya G**, Rahul Hemal Shah, Ram Kishan V, and John Sahaya Rani Alex. “Anomaly Detection in Drone-Captured Images using Machine Learning Techniques and Deep Learning Architectures”. Published *Virtual International Conference on Futuristic Communication and Networktechnologies (VICFCNT2020)* **[Best paper award]**

## PROJECT

## [\[PROJECTS\]](#)

- **Multiclass classification of cardiac arrhythmia** Jan 2020
  - Arrhythmia classification using the UCI Machine learning repository’s arrhythmia dataset.
- **Gesture Vocalizer for the deaf/mute** Dec 2019
  - A microcontroller-based system to convert hand gestures into speech for easy understanding of expressions for the disabled.
- **IoT in Hydroponics for fodder** Oct 2019
  - IoT based automated hydroponic system using temperature, pH, EC and moisture sensors.
- **Smart Walking Cane for the blind** Aug 2019
  - A low cost and light weight system with enhanced features by embedding utilities like obstacle avoidance.
- **Future of smart buildings** Mar 2019
  - A DL model that provides the framework to make real time intelligent decisions using IoT and home automation.
- **Audio transmission through visible light** Mar 2019

- Wireless optical transmission of sound wave using Li-fi with earphone jack or input from an arduino.

#### • **Real time temperature monitoring and telegram alerts**

*Jan 2019*

- Monitors and also predicts temperature in real time and alerts user through telegram.

### ACHEIVEMENTS

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#### International

- Secured **Global Rank 2** in the ITU AI/ML Challenge for the research on deep learning model compression using knowledge Distillation. *Dec 2020*
- Received **Google Cloud Platform Research Grant** worth **\$5000** for the proposal of our research on Handwriting Analysis for Depression and Dyslexia. *Aug 2020*

#### Domestic

- National Finalist-India **GGITC Schneider Electrics** -Designed a DL model that provides the framework to make real-time intelligent decisions using IoT in home automation. *Aug 2019*
- Runner up in the 24Hours Make-A-Thon for designing an onchip circuit using Mach Zehnder Interferometer on Lumerical, VIT Chennai. *Mar 2020*
- Secured regional 3<sup>rd</sup> in Elocution organized by the **Airport Authority of India** -South Indian Region during the Vigilance Awareness week. *Oct 2018*

### TECHNICAL SKILLS

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- **Programming Languages:** C++, Python, Java
- **Data Analysis:** NumPy, Scikit-Learn, Pandas, Keras, Tensor Flow, Pytorch, Cuda
- **Software:** MATLAB and SIMULINK, Keil uVision, Proteus, Siemens step7, ECSSCADA, Cadence, NS2, PSpice.
- **Hardware:** Arduino, Raspberry pi, LPC11U24
- **Miscellaneous:** Adobe Photoshop, Illustrator

### POSITIONS OF RESPONSIBILITY

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- Treasurer | Board Member of the IEEE Computer Society, VIT Chennai (2018-19).
- Head of design, IEEE Women in Engineering, VIT Chennai (2018).
- Vice Executive Director- HackHub2019, IEEE Computer Society, VIT Chennai (2019)

### EXTRACURRICULARS

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- **COMSNETS 2020 & 2021:** Volunteered at a premier International Conference dedicated to advances in Networking and Communications Systems.
- **AI4Good Simulator:** Assisting on building a simulator using agent based models ad compartmental models to model COVID19 outbreaks in refugee camps to offer timely interventions.
- Secured 2nd place in a 14km cycle Marathon during the National Level sports festival of VIT Chennai, **VIBRANCE2018**
- Emerging Student Volunteer Award 2018, **IEEE Student Branch**, VIT Chennai
- **VITeath** (Social outreach club) - School Team coordinator and volunteer for ENVISION 2019 (Hosted by NFB-National Federation of the Blind of India and COGNIZANT)
- Partnership Lead at **Renaissance 2018** which provides a platform for the growing entrepreneurial mindset within students, VIT Chennai.

### KEY COURSES UNDERTAKEN

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- Data Structures and Algorithms | Object Oriented Programming | Algorithm Toolbox
- Essentials of Machine Learning | IoT and ML -Bolt | Open Source tools for Data science
- Embedded Systems | Microcontrollers | Aerial Robotics | Computer Communication

### INTEREST AND HOBBIES

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- Graphic Design using Adobe Photoshop and Illustrator
- Pencil Sketching