PROFILE

I am a budding Electrical and Electronics engineer. I am interested in doing projects in **IoT**, **Sensors and Wearables, Bio-medical Image Processing, WebDev**, **ML**, **DL**, **Artificial Intelligence** and **Power Systems and Renewables**.

CONTACT

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SOFTWARE

- **Programming Languages**: C, C++, Python, JavaScript, Java, MATLAB, Octave
- **Web Development**: HTML, CSS, Angular, ReactJS, Node.js, MongoDB, PHP, NoSQL, Google Firebase
- **Engineering Software**: Arduino Genuino, TinkerCAD, FactoryIO, Android Studio
- **Machine Learning**: TensorFlow, Jupyter, Keras, Pandas, Numpy, OpenCV

MOOCS

- **Internet of Things**: How did we get here?, **Communication Technologies**, **Multimedia Technologies**, Setting Up Your DragonBoard™ Development Platform, Sensing and Actuation From Devices, Setting up and Using **Cloud Services** (**University of California, San Diego**)
- Introduction to the **Internet of Things** and **Embedded Systems**, The **Arduino Platform** and **C Programming**, Interfacing with the Arduino (University of California, Irvine)
- Industrial IoT on Google Cloud Platform (**Google Cloud**)
- **Machine Learning** (Stanford University)

RAKSHAA VISWANATHAN

EDUCATION

- **National Institute of Technology, Tiruchirappalli**
  2018 - 2022
  B. Tech in Electrical and Electronics Engineering
  Minor in Computer Science and Engineering
  CGPA- 8.54
- **Chettinad Vidyashram, Chennai**
  AISSCE 2018: 95.8%
- **The PSBB Millennium School, Gerugambakkam, Chennai**
  AISSE 2016: CGPA- 10

RELATED COURSEWORK

- **Core and Elective Courses:** Analog Electronic Circuits, Digital Electronics, Electron Devices, Basics of Electrical Engineering, Networks and Linear Systems, Circuit Theory, AC Machines, DC Machines and Transformers, Transmission and Distribution of Electrical Engineering, Industrial Automation, Electrical Safety.
- **Lab Courses:** Electronic Circuits Laboratory, Devices and Circuits Laboratory, Synchronous and Induction Machines Laboratory, DC Machines and Transformers Laboratory.
- **Minor Courses:** Computer Organization.
- **Institute Requirements:** Basics of Mechanical Engineering, Basics of Civil Engineering, Physics (I and II), Chemistry (I and II), Mathematics (I, II, Transforms and Partial Differential Equations, and Numerical Methods for Electrical Engineers), Basics of Programming, Professional Communication, English for Communication, Engineering Graphics, Engineering Practice.
- **Courses in Progress:** Linear Integrated Circuits, Control Systems, Power Systems Analysis, Data Structures and Algorithms, Utilization of Electrical Energy, Big Data Analytics, Database Management Systems, Power Systems Laboratory, Linear Integrated Circuits Laboratory.

WORK EXPERIENCE/ PROJECTS

Low Voltage DC Pico-grid for Hospital Electrification- Dr Arul Daniel, Professor (HAG), National Institute of Technology, Trichy:
(Dec 2019–Present)
This project aims at designing a stand-alone, **off grid PV pico-grid** that will provide enough power to sustain a primary healthcare centre which has no access to grid. A report is being prepared with an intent to publish it as an **IEEE journal paper.**

PERSONAL PROJECTS

- **Issue list management web application** *(August 2020)*
  A simple Web Application was designed with the help of ReactJS and Google Firebase.
- **Neural Networks** *(May 2020- July 2020)*
  - Predicting House Prices with Regression using TensorFlow.
  - Computer Vision: Neural Transfer Style & Green Screen Effect.
  - Traffic Sign Classification Using Deep Learning in Python/Keras.
  - Detecting COVID-19 with Chest X-Ray using PyTorch.
  - Image Classification with CNNs using Keras.
  - Image Processing with Python.
- **Task manager web application** *(May 2020- June 2020)*
  A task manager website was designed with the help of MEAN stack and REST APIs.

- **Deep Learning Specialization, AI for everyone** and **Introduction to TensorFlow** for Artificial Intelligence, Machine Learning, and Deep Learning (**deeplearning.ai**)
- Getting Started with **AWS Machine Learning** (**Amazon**)
- **Intel Network Academy**- Network Transformation 101 (**Intel**)
- Introduction to OpenCL on FPGAs (**Intel**)
- Control of Mobile Robots (**Georgia Institute of Technology**)
- Introduction to **Self-Driving Cars** (**University of Toronto**)
- **Electric Power Systems** (University at Buffalo, The State University of New York)
- Technical Support Fundamentals, The Bits and Bytes of **Computer Networking**, Operating Systems and You: Becoming a Power User, Crash Course in Python (**Google**)

- **Robotics** *(Aug 2018- Sept 2018)*
  Robotics projects based on Computer Vision and Python Image Processing were made.
  - Gesture Control Robotics: A robot that can be navigated with hand gestures was built. This was performed using Arduino Nano, Open CV and Python Image Processing.
  - Shadow Arm: A robot that can reproduce whatever image was shown on the webcam was built. This was performed using Arduino Uno, Open CV and Python Image Processing.

EDUCATIONAL ACHIEVEMENTS

- Accepted into **Machine Learning Scholarship Program** for **Microsoft Azure**.
- Received **Hackerrank Certification** in C++, Python and JavaScript.
- Stood among the **top 0.6% of CBSE** students in AISSCE 2018.
- Qualified for **Regional Mathematics Olympiad** in 2017.
- Achieved **High Distinction** in **Australian National Chemistry Quiz** (ANCQ), 2016.
- Received **Certificate of Merit** for **outstanding performance** from CBSE in 2016 for AISSE.
- Achieved **zonal rank 7** and **international rank 63** in the **National Cyber Olympiad** 2017.
- Received **Honor roll** for **outstanding academics** in High School, 2015
- Received **Best in Academics** award in High School, 2015
- Received **All-rounder** award (School level) in 2016, 2013, 2012, 2011

EXTRA-CURRICULAR AND CO-CURRICULAR ACTIVITIES

- **Deputy Manager,** Media Relations, Pragyan- the Techno-Managerial Organization of NIT Trichy.
- **Content Writer,** Currents- the annual symposium of the Electrical and Electronics Department, NIT Trichy.
- Part of **Dance Troupe** of NIT Trichy.
- Attended the **International Women's Day** summit (IWD 2020) conducted by **Women Tech Makers, Google**.
- Attended **Google's Developer Student Clubs- Online Mega Gathering** 2020.
- Attended the technical talk on "**Smart Grid - The future electric grid**" conducted by IEEE Student Branch of NIT Trichy.

VOLUNTEERING ACTIVITIES

- **Volunteer**, National Power Electronics Conference (**NPEC**) 2019.
- **Volunteer**, National Service Scheme, NIT Trichy.