Divyagna Bavikadi

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I am passionate in Research and Development, I would like to take up a fundamental or applicative task in Research field with commitment, honesty and hardworking to meet forth coming challenges in the Science and Technology by absorbing day-to-day innovations. The desire to learn more and more about everything is the driving force behind a lot that I do.

EDUCATION

iM.Tech in Information Communication Technology   **June 2017 - Present**
Department of Electronics and Communications Engineering, Central University of Karnataka (CUK)   *CGPA till date : 8.97*
- **Ranked 1** in my department till date. Grade: A+
- Pursued research at IIITH, IITH
- **Gold Medalist** in Bachelors of Technology

Board of Intermediate Education   **June 2015 - May 2017**
Narayana Junior College, Hyderabad   *CGPA :10*

Board of Secondary School Education   **June 2003 - May 2015**
Rosary Convent High School, Hyderabad, India   *CGPA : 9.3*
- While in the IX class I got INSPIRE Scholarship from Ministry of Human Resource Development(MHRD), India

EXPERIENCE

Research Assistant   **Sept 2021 to Present**
at Indian Institute of Technology   *Hyderabad, India*
- Designed and developed an end-to-end explainable yoga pose estimator, classifier, corrector app
Technologies Used: PyTorch, Ml,Dl

Research Intern   **Aug 2021 to Present**
at International Institute of Information Technology   *Hyderabad, India*
- Developing a Brain Atlas using Deep learning using brain MRIs
Technologies Used: PyTorch,DL

Data Science intern   **Feb 2021 to Present**
at DeveLearn Technologies Pvt Ltd   *Mumbai, India*
- Designed and developed an end-to-end Contactless biommetric Mobile/Desktop app that can detect faces live on the field with motion detection and recognizes under various occlusions especially useful during the covid situation.
- Gain experience on working on a real-world application especially usefull for covid situation
Technologies Used: Python, Ml,Dl,AppDev,DBMS,django

Intern/Trainee-ECE   **July 2020**
at Bharat Sanchar Nigam Limited (BSNL)   *Hyderabad, India*
- Internship entitled IoT technologies,Fibre Optic network design,Transmission and Networking technologies,Telecom Networks,GSM & GPRS architecture,4G,5G tech. and advanced mobile communication
- Successfully fulfilled all the tasks and was certified by Advanced level telecom training center(ALTTC), Apex training institute of BSNL - RTTC, Hyd. in collaboration with ITU(International Telecommunication Union)
Technologies Used: IoT,4G,5G

Engineering Trainee   **May and Dec 2018**
at Advance Training Institute Electronics & Process Instrumentation (ATI-EPI)   *Hyderabad, India*
- The training was based on VLSI(Front End Development)
- Gained skills in front end development using Verilog
- The training was based on Digital Electronics and their Applications
- Gained skills on implementation of digital comparators,counters,OpAmps,various electronic components
- Gained experience in Programming and implementation of the same is done on the ARM microcontroller kits as an experiment
- Successfully fulfilled all the tasks and was certified by ATI-EPI in VLSI Design(Front End) and in Digital Electronics and their applications
Technologies Used: Assembly language, VHDL,Verilog.

PROJECTS

Speech Emotion Recognition Using Deep Learning(Bachelor Thesis from IIITH)-I successfully developed an integrated complex system that recognizes emotions from a live stream ,and is embedded with a front end that includes a web application with advanced real-time 3D visuals and multiple pages, features, and a backend with the deep learning architecture that is wrapped with multiple different models: RNN, CNN, LSTM, MLP, that were built from scratch without using pre-trained models and an interfacing layer between the frontend and backend, all which in entirety works in a single protocol flow which is also designed from scratch.The accuracy against the test database has increased up to 10% than that of similar approaches in SER and also the emotions trained are more in number(upto 9) compared to the literature and also is speaker independent.

Face Recognition Attendance App(Web,Mobile)- A smart multi-purpose end-to-end approach for an automated system that successfully marks attendance of the staff, maintains a log of details of the staff,gives various features for the staff to check upcoming holidays, apply for a leave etc. The developed system has a novel architecture that uses MTCNN-Facenet framework integrated with a front end that doesn't require a large database that gives an improved false positive rate (18% better), true positive rate (14% greater) than literature .

Mini Project on Develpment of Raspberry Pi- IoT controlled Home automation system that includes voice commands,automating the lights,fans, doors, monitoring plants with humidity sensors and light dependent resistors using raspberry pi/Arduino via python.The functionality programmed in python uses Voice to Text conversion for the commands.

Various other projects like- Personal Equipment Detection System, RADAR Detection system, Audio and Image processing GUI, Temperature monitoring system using IoT and Arduino sleepmodes to save power, RealTime Intrusion Detection for Smart Home.

PUBLICATIONS

(Accepted) **Divyagna Bavikadi** Et Al., Real-Time Face Recognition for Organisational Attendance Systems. In 4th International Conference on Recent Trends in Image Processing & Pattern Recognition (RTIP2R 2021)

TECHNICAL SKILLS

Programming Languages: C, Python, VHDL, Verilog, CSS, HTML, Javascript
Scientific softwares: MATLAB, Simulink, Scilab, Lab-VIEW
Software and IDE Tools: Visual Studio, PyCharm, Spyder, Jupyter notebook, Xilinx, Keil, CodeBlocks, Adobe Indesign, Arduino,SQLite

ML libraries and frameworks: PyTorch, OpenCV, tensorflow, numpy, scipy, scikit-learn, DeepFace, FaceNet, librosa, pandas, matplotlib, django

Office softwares: Microsoft Office, Libre Office, LaTeX, DocBook

Operating system: iOS, Linux, Windows, FreeRTOS

Strong interpersonal skills and ability to work in teams and as well as individually. Have Cordial relationship with the faculty, peers and colleagues. Strong Communication skills in English and three other languages. Fluent in English both written and speech.

Courses did and Certifications

- Course works including Artificial Intelligence and Expert Systems, ARM PIC AVR microcontroller implementation, RPi interfacing with various sensors and cloud, Client Server application using RPi at School of Engineering, Central University of Karnataka

National Institute of Technology (NIT), Warangal   **Dec 2017**

Computational Methods and Parallel Processing on Science and Technology   *Telangana, India*
- Gained knowledge about Fundamentals of scientific computing methods, viz, finite difference, finite element, finite volume and particle methods taught by by International Faculty Prof.Tony W.H. Sheu. National Taiwan University ,Taiwan
- Applied the above methods in solving the NavierStokes and Maxwell equations and did parallel computing on GPU and their specific applications in the biomedical science, electromagnetic and defence applications
- Completed all the tasks given and was certified by Global Initiative of Academic Networks(GIAN) by Ministry of Human Resource Development(MHRD), Govt. of India

Central University Karnataka in collaboration with Indian Institute of Technology (IIT) Hyderabad   **July 2018**

Introduction to programming and prototyping with Mini Project Demonstration   *Karnataka, India*
- Gained skills like python integrated on Raspberry Pi and Arduino with IoT technologies
- Completed a mini project of home automation controlled by voice command using IoT

Eckovation   **May to Aug 2019**

Applied MATLAB Programming
- Gained skills on Matlab programming and on using it to run a Graphical User Interface and simulations and graphics.And its usage for audio signal processing,image processing,reading data from internet,statistical analysis,curve fitting a dataset
- Develepoed a GUI for Audio processing

Bolt iot with Internshala trainings   **Jan 2019**

Internet of Things
- The training was based on iot usage in various projects including usage of APIs and cloud features
- Completed mini projects like smart garden with IoT,temperature monitoring system and controlling devices and implementation of ML in Iot(smart irrigation system)

National Programme on Technology Enhanced Learning(NPTEL)   **July 2018 - Present**
- The joy of computing using python - Scored 97 percent and certified as Topper 1 %
- Programming, data structures and algorithms using python
- Introduction to Internet of things - Scored 99 percent and certified as Topper 5
- Better Spoken English - Certified as Topper 2 %
- Operating Systems Fundamentals
- Introduction to Photonics
- Introduction to Environmental Engineering and Science-Fundamental and Sustainability Concepts
- Computer Networks and Internet Protocol
- Technical English for Engineers-Certified as Topper 1 %
- Soft Skills-Certified as Topper 1 %
- Deep Learning
- Introduction to Industry 4.0 and Industrial Internet of Things - Scored 100%
- Deep Learning for Computer Vision

International Institute of Information Technology, Hyderabad   **Aug 2021**

5th Summer School on Artificial Intelligence
- With focus on Computer Vision and Machine Learning

Important Conferences and Workshops attended

- Actively participated in AISYWC 18(All India Student-YP-WIE Congress) at Vidya Vikas Institute of Engineering and Technology Mysore, IEEE Bangalore section from 28TH-30THSep 2018.
- Participated in Zonal round on Internet of Things Techradiance'18 organized by Harbour Technologies, in association with Radiance, IIT Bombay.
- Participated at INSPIRE-district level science exhibition 2014 on 30-08-2014 to 01-09-2014 at Hyderabad.
- Participated in Smart India Hackathon and got selected for the next round.
- Participated MUCS 2021-MUltilingual and Code-Switching ASR Challenges.

Extra Curricular Activities

- Founder and Chief-Editor of Tarang (which is The IEEE monthly magazine/ e-magazine of IEEE in CUK student chapter at Central University of Karnataka)
- Participated and stood 1st place in quiz, debate competition on the occasion of Engineers Day Celebration on 15 Sep 2017
- Worked as the Editor of Tarang in 2018-21 and the Head Content Creator of the student branch.
- Team member of SAC (Students Activities Committee) and WIE(Women In Engineering) of IEEE student branch.
- Actively participated in the activities conducted in CUK IEEE student branch at Central University of Karnataka
- Participated in sports, games and debates.
- Participated in quiz completion on the occasion of Engineers Day Celebration on 21 Sep 2018.
- Volunteered for YRM (Young Researchers Meet) conducted by IEEE SB Central University of Karnataka
- Student membership in IEEE, IEEE Communications society
- Have also volunteered to teach 'Computer Education' for poor and orphan students as a social activity
- Coordinator for Street Cause PAW (NGO) for the term 2021-22
- Visited foriegn countries: Sweden, Germany, Italy, Denmark and Netherlands

I hereby declare that the statements made in the above are true to the best of my knowledge.