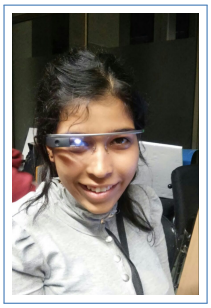

Dolly Shahani

Curriculum Vitae

Education

'12–Present **Bachelors of Engineering (Hons.) in Electrical and Electronics**,
Birla Institute of Technology and Science, Pilani, Hyderabad Campus, *CGPA – 8.4*.
Minor Degree: Finance

'12 **Higher Secondary Certificate (H.S.C)**,
Central Board of Secondary Education, Navnidh Hassomal Lakhani Public School, *Percentage – 88*.

'10 **Secondary School Certificate (S.S.C)**,
Central Board of Secondary Education, Navnidh Hassomal Lakhani Public School, *CGPA – 9.6*.

Experience: Ongoing Projects and Internships

Dec'14–Present **LVP MITRA FELLOWSHIP**,
Camera Culture Group, MIT Media Lab and LV Prasad Eye Institute,
Mentor: Shantanu Sinha, MIT Media Lab.

Super Stereo: A low cost wearable all in one, modular platform for eye diagnosis.

- Various eye diagnosis tools are available but not in a single package. Equipment and devices are quite expensive.
- Aims to design a virtual reality headset with a camera attached which looks at the frontal surface of the eye with a host of apps running on the LCD.

Anterior Segment Ocular Imaging: Developing a low-cost, wearable solid-state device with no moving parts for 3D reconstruction of the anterior segment of the eye.

- Developed a prototype device to exhibit functionality similar to that of an ophthalmic slit-lamp without any moving parts.
- The device features simplified optics, complete computational control over illumination, high-speed data capture and has a form factor smaller than most commercially available slit lamps.
- perform the examination automatically in under 5 seconds.

Room no: MM 443, BITS Pilani Hyderabad Campus
Jawahar Nagar, Shameerpet Mandal, Rangareddy District, Hyderabad, Telangana
+91-9010586549 • *shahanidolly@gmail.com*
https://github.com/dollyshahani

Jan'15– Present **Department of Electrical and Electronics Engineering, BITS Pilani**, *Mentor: Dr Venkateshwaran Rajgopalan, Assistant Professor, Bits Pilani, Hyderabad.*

- Identification of a non-invasive biomarker using MRI to assess CNS damage: studying the changes in brain networks in four different clinical phenotypes of ALS compared to controls by adopting graph theory based network analysis.
- Amyotrophic lateral sclerosis is one of the common neurodegenerative disorder with no known cure.No objective diagnostic technique exists to assess central nervous system (CNS) damage.

May'14– July'14 **Summer Intern**, *Madras Atomic Power Station, Kalpakkam, Chennai*, National Power Corporation of India Limited (NPCIL), Department of Atomic Energy, India.

- Study of Auto Transfer System at Madras Atomic Power Plant, and analysis of a real time situational fault occurred in the plant during ATS application using oscillograph measurements.
- Proved the adherence of Auto Transfer Scheme of Madras Atomic Power Station which was originally designed in 1970s according to the design requirements stated by "American National Standard for Polyphase Induction Motors for Power Generating Stations" released in 2000. (under the guidance of Mrs. Supriya Bhanja, SO/G, MAPS)
- Design of a remote sensing device used for Temperature measurement at the areas of emergence, where human access is not possible
- Aim was to monitor the temperature of inaccessible areas under emergency situations. It involves implementation of wireless network connected by Xbee transmitters and an aurdino microcontroller and sending information to Xbee receiver interface. (under the guidance of Mr. Chidambara Thanu, SO/F, MAPS)

Miscellaneous

Jan'15 **MIT Media Lab Design Innovation Workshop**, *Gandhinagar, Gujarat*, Guides: Raj Nair, Visiting Professor MIT and Dhruv Jain, MIT Media Lab.

Designed a heat sensing device for blind people which enables them to capture photographs and sense them with the help of thermal imaging that has been achieved by driving a resistive matrix, which is specially calculated to give a desired heated effect on specific points. The image needs to be converted to a suitable grayscale value and digitized in order to provide an input to the controller (Arduino)

Technical skills

Programming Languages: C/C++, Python, LaTeX

Software: MATLAB, Solidworks, OpenCV, Adobe Illustrator, LTspice, QTSim, Emu86, Xilinx(Verilog), AutoCAD, Electric(VLSI), Adobe Photoshop

Hardware: 8086 Microprocessor, Arduino, Raspberrypi, Emona Kit, DSP Kit (TMS320C6713)

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Courses Undertaken

Computer Science	Network Embedded Applications,Computer Architecture, Data Structures and Algorithm,Digital Design, Microprocessors and interfacing, Analog and Digital VLSI Design
Electrical and Electronics	Digital Image Processing, Digital Signal Processing, Communication Systems, Electrical Machines, Power Electronics, Power systems, Analog Electronics, Control Systems, Signals and Systems, Microelectronic circuits
Physics and Mathematics	Optimization,Probability and Statistics, Linear Algebra, Electromagnetic Theory, Mechanics Oscillations and Waves, Electronic Devices
Management and Finance	Principle of Management, Fundamentals of Finance and Accounting, Security analysis and Portfolio Management,Technical Report Writing

Research Interests

Electrical Engineering and Computer Sciences.

- Image Processing
- Data Analysis, Computer Vision, Probability and Statistics
- Biomedical Image and Signal Processing
- Power Systems, Electronics
- Designing VLSI design
- Wireless Network Systems
- Processor architecture, Embedded Systems
- Hardware description and simulation

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