

## HARPREET SINGH

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### OBJECTIVE

Work in embedded systems industry to create innovative products and developments which take us much further into Modernization (*instability* as I perceive it, but doing this is fun).

### EDUCATION

Bachelor of Technology

Batch 2009-2013

Guru Nanak Dev Engineering College, Ludhiana

- Majors: Electronics and Communication Engineering
- Interested particularly in Open-Source Hardware, Robotics, Embedded Systems, Green Electronics, Automation and Advancement in Electronics.

### SKILLS & ABILITIES

#### [Technical]

- Expert in Embedded Systems including Arduino, Raspberry Pi, mbed, Intel Edison, PIC, AVR etc.
- Expert in PCB Designing.
- Have a good knowledge of various programming languages like: Assembly, C, C++, Python etc.
- Good knowledge of various designing software like Adobe Photoshop, Coral etc.
- Member of Technical Event Organizing Committee of various events at college.

#### [Management]

- Played major role in technical part of techno-cultural College Festival GENESIS'12 as Event Manager.
- Student Coordinator of technical festival GNEration2K12.
- Technical and Design team member at college festival Nexus'11.
- Core team member of Intra technical fest SPECTRUM'11.
- Member of Technical Event Organizing Committee of Genesis'10.

#### [Sales]

- Member of Advertisement team of College Festival TECHNOVISION'10.
- Participant of Entrepreneurship Awareness Camp'12 organized by Science & Technology Entrepreneurs' Park (STEP-GNDEC), Ludhiana.

#### [Communication]

- Knows English, Hindi, Punjabi and Dogri.
- Won a Gold Medal in Inter-School Competition on Intellectual Skills.

#### [Leadership]

- **Convener**, Students' Chapter Institution of Engineers, GNDEC Ludhiana for session Jan'13-Jul'13.
- **Co-Convener**, Students' Chapter Institution of Engineers, GNDEC Ludhiana for session Aug'11-Jul'12.
- **Public Relation Officer**, Computer Society of India, GNDEC Ludhiana.
- Named to Electronics Buzz (was a Consultancy Services of Electronics and Embedded Systems 2010-12)
- Was School Prefect in my senior year.

### PROJECTS

- Title: **blueSafe**  
Tools used: Bluetooth Low Energy (4.0)  
Description: Created a smart jewelry item which helps women to raise an alarm in case of emergency with just a single hidden click.

- **Title: Prosthetic Arm**  
**Tools used:** Arduino, servo  
**Description:** Developed a prosthetic limb (Arm) for a subject who got a high volt electric shock from a transformer and lost his natural limb with a very cost-effective technique and able him to use it like a natural one without extra gestures or thoughts.
- **Title: muteSign**  
**Tools used:** Intel Edison, Accelerometer, Gyroscope  
**Description:** Created a system which helps a disabled person to speak using hand gesture.
- **Title: quakeSens**  
**Tools used:** Arduino, Accelerometer, Gyroscope, GSM Module, Bluetooth  
**Description:** Created a system which first detects an earth quake and then sound an alarm with notification to every nearby device and call for emergency services, if required.
- **Title: smartChair**  
**Tools used:** Arduino, Mindwave Brain Wave Sensor, Accelerometer, Gyroscope, Ultrasonic Sensors  
**Description:** Developed a wheel-chair which moves with the attention and meditation levels of brain waves and decoded the mindwave hardware to make it work directly with Arduino to drive the chair accelerometers, gyroscopes and ultrasonic sensors are used to make the moves smart.
- **Title: Raspberry Pi based wireless Projector**  
**Tools used:** Raspberry Pi, IR pen and projector  
**Description:** Designed the project to convert normal projector into a smart projector which can be connected wirelessly over Wi-Fi server.
- **Title: Raspberry Pi based wireless Camera**  
**Tools used:** Raspberry Pi, Arduino, webcam, Wi-Fi modem  
**Description:** Designed the project to use a webcam as wireless CCTV with control.
- **Title: Smart Touch Projector**  
**Tools used:** Wii-mote, IR pen and projector  
**Description:** Designed the project to convert normal projector into a smart projector which can be controlled with an IR based Pen.
- **Title: Clock Display on LCD by PIC microcontroller**  
**Tools used:** MikroC compiler & Flash Magic  
**Description:** Designed the whole Hardware and Coded code for displaying date and time and setting alarm on LCD by PIC Microcontroller.
- **Title: Pirate Bay**  
**Description:** This is a Hardware based project (A Robot). It was a robot created by TINY PIRATES (my team). We also participated with this project at a competition at Indian Institute of Technology, Kharagpur (IIT-KGP).
- **Title: Roberd**  
**Description:** A Line Follower was a machine that can follow a path and indicate the obstacles, in addition to which there was another robot that trace this 1<sup>st</sup> robot with the help of RF Technology.
- **Title: Traffic Light System**  
**Description:** Designed the traffic light system with the use of microcontroller and installed watchdog timer.
- **Title: Image Steganography**  
**Tools used:** MAT Lab  
**Description:** Steganography is the art of hiding the fact that communication is taking place, by hiding message in some general information.
- **Title: di-DOW**  
**Description:** A project in school time which proves the white light formation by mixing three primary colors.

#### HOBBIES AND SKILLS

Driving, Photography, Photo Editing, Cooking, Mountaineering, Traveling, Adventure and Listening to music.

## RESEARCH INTERESTS

Artificial Intelligence, Gestural Interaction, Computer Vision, Intelligent interactive systems and environment, Interaction Design, Social Computing, Robotics, Green Electronics, Distant Control, Embedded Systems, Security Systems, Power Electronics, Digital Informatics etc.

## EXPERIENCE

Founder and CEO

From Jan, 2016 to Till Date

*mBEDed  $\mu$ Systems*

- A Startup to provide Research and Development of Product Development to various industries with Intellectual Property Rights (IPR).
- Researching some IoT based Product to Launch on my own.

Research and Development Engineer

From Sept, 2014 to Jan, 2016

*A-Set Training and Research Institute*

- Provide Research, Design and Development in Product Designing and Robotics Department.

Sr. Embedded System Engineer

From June, 2014 to Aug, 2014

*Netmax Technologies Pvt. Ltd.*

- Provide Research, Design and Development and Teaching Services in R&D Department.

Embedded System Engineer

From June, 2013 to June, 2014

*Netmax Technologies Pvt. Ltd.*

- Provide Design and Development and Teaching Services.

Internship

From May, 2011 to July, 2011

*Netmax Technologies Pvt. Ltd.*

- Completed a Learning Program on Embedded Design and Programming.
- Made a project 'Clock Display on LCD with alarm system by using microcontroller (PERIPHERAL INTERFACE CONTROLLER)'

Director

From Dec, 2010 to July, 2012

*Electronics Buzz*

- Result of an Idea which include the free consultant service to needy and hobbyists of Electronics and Embedded System.
- It was a pure online organization just provides services by blog, emails and chats.

## REFERENCES

Surinder Kumar  
L3 Tech Support  
Schneider Electric  
me@diwakarvaish.com

Gurpal Mehra  
CEO & Director  
SGS Electronics Pvt. Ltd.  
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