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: P**rosthetic 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 devices 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 1st 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

Sole Proprietor — From Jan, 2016 to Till Date
mBEDed µSystems

- 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

Diwaker Vaish
Head, Robotics
A-Set Training & Research Institute
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Gurpal Mehra
CEO & Director
SGS Electronics Pvt. Ltd.
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