

Anand Dhandhania

Contact Details: anand_dhandhania@students.iitmandi.ac.in, (M) +91-9816874644

Address: Boys Hostel-4, Nako Residency, SauliKhad, Mandi, H.P.-175001

Date of Birth: 1993-06-28

Education

Degree	Institute	University/Board	Year of Passing	CGPA/ Percentage
B. Tech. (Electrical Engineering)	Indian Institute of Technology Mandi (H.P.)	IIT	2010-2014	8.00/10
XII	DLDAV Pitampura, New Delhi	CBSE	2010	87%
X	DAV Ashok Vihar, New Delhi	CBSE	2008	86%

Projects

Automatically Assigning Papers to Researchers using Social Network Data [Prof. Hema Murthy, IIT Madras]

In the project, we applied various community detection algorithms, clustering algorithms to design a framework that can automatically identify the most suitable researcher in a social network of researchers. The project was done as a part of course on Pattern Recognition. Various other assignments on classifiers for different datasets were performed in the course.

Predicting Stock Market using HMM Model [Dr. Manoj Thakur, IIT Mandi]

Data for various stocks were taken from Yahoo Finance and a Hidden Markov Model was generated to predict the future values of the stock. Open-source HMM toolbox developed by Kevin Murphy was used to implement various HMM functions.

Spam Filter using Naive Bayesian Classifier [Dr. Sarita Azad, IIT Mandi]

Spam Filter was designed in MATLAB using Naive Bayesian algorithm. Filter was trained using the text data. Only a simulation of the filter was implemented. Currently working on software designing for spam filter using HMM.

Network Management [Prof. Timothy A. Gonsalves, Director, IIT Mandi]

- 1) Undertook a case study of IIT Mandi's network. Determined the Delay vs. Throughput characteristics of the network and used SNMP tools to locate the bottleneck.
- 2) Studied the topology of IIT Mandi network and analyzed the traffic on student proxy.

Authorotating Solar Panel [Design Practicum]

Designed as a part of a course on Innovation. A product designed to be used in rural india for increasing the efficiency of Solar Panels. It rotated panel after a particular number of time intervals so that it faces the sun for most number of hours in a day. It was appreciated a lot when demonstrated to the local people in Mandi, H.P.

Technical Skills

- 1) Advanced knowledge of C,C++.
- 2) Basics of Language like Python,Java, Bash , R, Perl, Julia, Matlab.
- 3) Worked in Linux and Windows programming environment (Visual Studio).
- 4) Intense knowledge of Embedded C/Microcontroller Programming.
- 5) Android Development
- 6) Used Software Tina-TI, Xilinx ISE simulator, Praat, Gephi (for generating network).

Relevant Courses

Artificial Intelligence
Computational Financial Modelling
Control System
Data Structures and Algorithms
Network Management System
Pattern Recognition
Probability and Random Processes

Internships

ThinkLABS Technosolutions Pvt. Ltd. (June 2011 - July 2011)

Extensive Training in Mobile Robotics with an insight into different types of robots, robot electronics, sensors and I/O interfaces. Interfacing with ATMEGA32. In depth training in communication protocols such as UART and CC2500. Introduction to Swarm Robotics. During the course successfully completed the project on " Self Balancing Robot" assigned as a part of internship and secured grade "A".

Center for Artificial Intelligence and Robotics, DRDO (Bangalore) (Jun 2012 - July 2012)

Successfully completed the project on "Preprocessing of Speech Signal". A complete software was designed in C++ to extract digitally sampled speech signal from a wav file and to do the processing of the data. Preprocessing included glitch detection, removal and then interpolation of the data. Data was assumed to behave as a gaussian distribution. It's statistical parameters were observed. Using various histogram plots, an outlier threshold was determined and the data above this threshold was removed from the original data set. The removed samples were then interpolated using various interpolating techniques.

Amdale Software Technologies, Gurgaon (Jan 2013-Feb 2013)

During the course of internship, developed a front end processor (Windows Application) for the Text-to-Speech system (Festival Server) deployed on a remote linux machine. For the purpose, made use of Sockets to communicate messages to the remote machine and FTP for sending/receiving files. Complete software was designed and implemented within a span of 6 weeks. Three layers of software were designed namely

- 1) Linux based system (a.k.a FESTALK) written in perl, which acted like a server for Windows Socket and interacted directly with Festival to generate sound files.
- 2) A Dynamic Link Library(DLL) which contained all the functions that were used to interact with FESTALK over sockets.
- 3) WinApp using the DLL to make a user interface.
- 4) An android application directly interacting with the FESTALK.

Achievements

Coordinator of Robotics Section, IIT Mandi for two consecutive years (2011-2013). During the course :-

1. Managed various workshops for the students.
2. Organised introductory classes for the students of IIT Mandi.
3. Participated in Tryst, Technical Festival of IIT Delhi.
4. Made various hobby projects including line followers, DTMF controlled bots etc.
5. Learned the basic concepts of Image Processing, used openCV library.

Winners of Junkyard Wars in Mechfest'11 at IIT Mandi.

Won the competition with around 16 teams participating. Were asked to make a tricycle for playing soccer for handicap.

Participated in "Akhil Bhartiya Mahatma Hansraj Aryan Sanskritik Pratiyogita Mahotsav".

It was a national level dramatics competition. Got a chance to participate there as winners of Delhi Zone.

Interests

- 1) Doing competitive programming on a regular basis.
- 2) Circuit Designing and working on embedded systems.
- 3) Management tasks which require good presentation/oration, managerial and team-working skills.
- 4) Writing and directing theatre acts.
- 5) Playing musical instruments. I am an Acoustic Guitar player.

References

- 1) **Hema A. Murthy**, Professor, IIT Madras (<http://www.cse.iitm.ach.in/~hema/>)
- 2) **Amit Agarwala**, Chief Architect, Amdale Software Technologies. (email :- amita@amdale.com)
- 3) **Dr. Manoj Thakur**, Asst Professor, IIT Mandi
(<http://www.iitmandi.ac.in/institute/facultyhomepages/mThakur.html>)
- 4) **Dr. Sarita Azad**, Asst Professor, IIT Mandi
(<http://www.iitmandi.ac.in/institute/facultyhomepages/saritaAzad.html>)