KUNAL V. SUTHAR

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EDUCATION

Bachelor of Technology in Information and Communication Technology   August 2014 - Present
Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar.
CGPA: 7.13/10.00

HSC, Class XII   August 2012 - June 2014
Gyandeep Hindi High School, Ahmedabad, Gujarat.
Gujarat Secondary and Higher Secondary Education Board, Percentage: 83.6%

SSC, Class X   March 2011 - March 2012
Boys' High School, Allahabad, Uttar Pradesh,
Indian School Certificate Examinations(ICSE), Percentage: 90.28%

RELEVANT WORK EXPERIENCE

Research Internship at Dhirubhai Ambani Institute Of Information and Communication Technology, Gandhinagar   May 2017-Present
Internet of Things(IoT) Summer Research Intern

· Implemented a non-intrusive attendance marking system using tools of image detection and recognition, which marks the presence of students in a lecture theater
· Got an accuracy greater than 90 %

Rural Internship at Himalayan Institute For Environment, Ecology & Development (HIFEED), Uttarakhand   Dec 2015-Jan 2016
Social Worker

· Analyzed the everyday activities of people in villages present in the village clusters.
· Understanding their problems and how these problems can be remedied using technology.

ACADEMIC PROJECTS

Query-Drift Prevention for Robust Query Expansion   March - April 2017
Information Retrieval

· A research project involving integration of data-fusion algorithms in the search engine *Terrier*.
· Integration of the algorithms reduces query drift and boosts the Mean Average Precision(MAP) score for a query and thus improves the search engine's performance.

IoT-based Traffic Pollution Monitoring System   March - April 2017
Internet of Things

· Designed a wireless sensor network which uploads the current pollution levels to Google Drive's Spreadsheet, which is used to train a classifier, with which we can predict future pollution levels.
· Generated geographical heat-maps, indicating pollution levels, so that a user can choose a safer path.

Database Management for DTH Services   August - Dec 2016
Database Management Systems

· Development and maintenance of user record's database having their TV-subscriptions, channels, packs record.
· Learned about Entity-Relationship diagrams, primary and foreign keys, functional dependencies and normal forms.
· Performed demographic analysis on the database to find trends in the consumption pattern.

Voice-Controlled Home Automation System   October - November 2016
Embedded Hardware Design

· A system which controls daily-life electrical appliances like tubelight, fan, television using voice commands.
· Used Google's API to convert speech to text, a bluetooth module to retrieve the text from the mobile to the arduino, and a relay to act as a switch.

RELATED COURSEWORK

- **Information Retrieval**: search-engines, language models, indexing, retrieval, pseudo-relevance feedback.

- **Internet of Things**: Wireless Sensor networks, ALOHA, VANETs, LEACH protocol, Dynamic Source Routing, OGDC protocol.

- **Computer Vision**: Depth estimation using photometric stereo, shape from shading(SFS), Stereo-vision.

- **Cryptography**: Cryptographic primitives like block ciphers, chain ciphers, DES, AES, MD5, SHA, RSA.

- **Computer Networks**: protocols, topologies, OSI Model, TCP/IP, LANs.

- **Database Management Systems**: E-R diagrams, primary keys, foreign keys, normal forms, functional dependencies, stored procedures.

TECHNICAL SKILLS

Operating Systems	Unix, Linux, Windows XP/7/8/10
Programming Languages	C, Java, Python
Softwares	Eclipse, Sublime Text, Terrier, pgAdmin3, MATLAB, OpenCV, Keras.

HONORS

- Received award for achieving meritorious marks in 10th from the Indian Farmers Fertiliser Cooperative Company

- Won the best group for two consecutive years in the Hindi Group Elocution competition in middle school.

EXTRA-CURRICULAR

Participated and stood 2nd in a bot-building workshop *Sabotage*, DA-IICT, Gandhinagar.

Active sketcher and an avid cricket and movie watcher. Active short stories reader.