Chirag Mahaveer Parmar

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EDUCATION

Visiting Student - Product Design & Technology Entrepreneurship — Jan 2018-May 2018
University of California, Berkeley – 3.825/4

B.Tech Electronics and Communication Engineering — Aug 2018-May 2018
SRM University, Kattankulathur, Chennai – 9.27 (3.708/4)

High School - Physics, Chemistry, Maths and Computer Science — Comp. on May 2014
Chinmaya Vidyalaya, Chennai, India – 93%

WORK EXPERIENCE

AI and Embedded Systems Engineer — Jan 2018 - Present
EnableTech, Berkeley, India

- EnableTech is a student organization of UC, Berkeley that designs and builds assistive technology for people with disabilities.
- Designed a computer vision and ranging system to notify a blind man of nearing boats to help him cross the bosphorus strait.

IoT Researcher & Board Member — June 2016 - Present
Next Tech Lab, Chennai, India

- Researching on emerging fields of technology like IoT and Blockchains.
- Mentoring 25+ students on more than 5 research projects.

Research Intern — June 2017 - July 2017
Inventrom Pvt. Ltd., Bangalore, India

- Found fatal bugs(heartbleed) in their cloud architecture and rectified them.
- Found vulnerability in MQTT protocol towards MITM attacks, designed end to end encryption mechanism to prevent the same

Electronics Engineering Intern — June 2016 - July 2016
Chennai Metro Rail Ltd., Chennai, India

- Worked on the Passenger Address and Communication Information system (PACIS) and Train Control and Monitoring system (TCMS).
- Analyzed the Braking control units (BCU) and HVAC's of the train.

Automobile Electronics Trainee — Aug 2015 - Dec 2015
Camber Racing, Chennai, India

- Designed a dashboard for RPM meter, Gear Indicator and other engine parameters.
- Designed a 12:1 scaled down chassis which was Formula Student compliant.

SKILLS

Embedded Software	Embedded C, Assembly-8086, Matlab, EagleCAD, Node-Red, Embedded Linux
Programming	C++, HTML, Javascript, Node.js, Python, Solidity
Hardware	Nvidia Jetson, Intel Edison, R-Pi, Arduino, ESP8266, NodeMCU

PROJECTS

KayakNav *Assistive Technology* github: /EnableTech/KayakNav
A computer vision and spectroscopic ranging system intended to be used in kayak's. The project was initiated, under EnableTech, to help a blind man cross the bosphorus strait on his own. The nvidia jetson and 8 cameras were used to identify and point out boats nearing the kayak.

Walkity *Assistive Technology* github: /anithp/Walkity
A new shoe attachable that helps you navigate. It is two-piece wearable which works by using vibrational motors to generate haptic feedback. The generated feedback is used to notify turns and arrivals. The prime purpose of this project was to help blind people navigate to new places. Presented at MakerFaire - BayArea 2018

RoboCrop *IoT* github: /chirag-parmar/RoboCrop
The perfect marriage of IoT and Artificial Intelligence to bring out a solution in the trillion dollar agricultural market. Robocrop enables a plant to move and interact with other IoT devices around it. It can calculate amounts of resources needed and when they are needed. This helps in maximizing the yield of the crop. RoboCrop also has sentiments of it's own.

Decentralised IoT *IoT & Blockchains* github: /chirag-parmar/Decentralised-IoT
A decentralized network of IoT devices that maintains a blockchain of binary firmware files. Users can install a piece of firmware by spending some 'IoT' coins. Blockchain was built from scratch.

Smart Car Insurance *Ethereum, IoT and AI*
A car insurance mechanism that implements smart contracts of the ethereum blockchain. Uses IoT and machine learning algorithm to detect if the accident was due to rash driving.

Driver Assist *Computer Vision* github: /chirag-parmar/Driver-Assist
A Raspberry-Pi based project that detects sign boards and signals and notifies the user. Overrides the control if no action is taken by the user. Detects pedestrians too.

Smart Work Assisting Gear *IoT and AI*
A wearable that ensures if a worker has worn proper safety equipment during work. It also has a machine learning system which analyzes the workers cry and contacts the nearest hospital. Published in the IEEE World Forum on Internet of Things 2018, Singapore.

Face Recognition and NFC based Lock *IoT and AI* github: /chirag-parmar/ArduinoNFC
Two layer security solution which implements Face Recogniton using FaceAPI and NFC tags to authenticate members. Currently active at Next Tech Lab, SRM University, Kattankulathur.

Automation using Motion Perceptive Sensors (A. M. P. S.) *IoT*
A automation system that detects motion and toggles the electrical appliances in a room. It is also equipped with a web interface to manually switch the appliances.

CO-CURRICULAR

Award-Winning	2017	March	Minor Project	3rd Prize
	2016	August	IOT Challenge 2016, Kancheepuram	Winners
	2015	October	ABET, USA	Best Project
	2014	August	Eye-Robotics, Chennai	3rd Prize

Participations	2018	March	TensorFlow Dev Summit, California
	2018	March	Hacktech, California
	2017	October	InOut Hackathon
	2017	June	Real-World IoT Security Conference (RISC '17)
	2016	November	Big Data or All (Prof. Widom - Stanford)
	2016	September	Bosch IOT Hackathon, Bangalore
	2016	January	Intel IOT Hackathon , Bangalore
	2015	September	ROBOWARS, Chennai
	2014	September	EYE-Robotics Workshop, Chennai

SOCIETIES

Head of Technological Innovation - *IEEE-SRM - Institute of Electrical and Electronics Engineers*
Member - *EFY group - Electronics For You*