

Anuj Deshpande

Embedded Systems and OS
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PROFILE

I have been working in the domain of embedded systems for the past 11 years. I have been involved in design and execution of customer products. This has included firmware, integration with cloud services and occasionally, schematic reviews.

EDUCATION

- Pune Institute of Computer Technology, University of Pune
First Class in Bachelor of Engineering in Computer Engineering, 2014

SKILLS

- C, Embedded Linux, RTOS
- Scripting experience with Bash, Python
- Simple web apps using JavaScript, React, and AWS/Cloudflare

WORK EXPERIENCE

Independent Firmware Consultant

Remote — 2023 onwards

- Worked on projects ranging from smart calculators running Linux, medical bands using nrf52, sensor buoys using ESP32S3, and many more.
- Responsible for firmware delivery on all the projects I worked on during this time.

OS Engineer, Balena Inc.

Remote — 2022-2023

- Add new board support for balenaOS(Yocto based)

Hardware Engineer, Balena Inc.

Remote — 2019-2022

- RTOS firmware development for external coprocessors for Linux SBCs
- Built tools for faster hardware design and development using Typescript and GitHub CI/CD
- Built a GitHub Action to automatically make project landing pages

- Tested and certified hardware products balenaFin, and EtcherPro. Included EMI/EMC pre-certification testing, as well as environmental testing - this was especially useful in reducing the high costs of certification

Embedded Systems Engineer, Espressif Semiconductors

Pune — 2017-2019

- Part of the Applications Framework group, working on projects like Alexa SDK, ESP Rainmaker, and more
- Used serverless frameworks to create simple web apps to support IoT development
- Added Bluetooth Audio support for Espressif's Alexa implementation
- Built different integrations with AWS - S3, Lambda, IoT, DynamoDB

Contractor, Marvell Semiconductors

Pune — 2015-2017

- Responsible for Open Source SDK (EZConnect Lite) for 88MW300 WiFi microcontroller
- Manufactured a low cost development board that was featured on [Hackaday](#)
- Built different integrations with AWS - Lambda, IoT

Founding Engineer, Revealing Hour Creations

Pune — 2014-2015

- Successfully crowdfunded a BLE development board - <https://www.crowdsupply.com/revealing-hour-creations/tah>
- Was responsible for manufacturing, marketing, and firmware

Intern, [BeagleBoard.org](#) as part of Google Summer of Code

Remote — 2013

- Built userspace libraries for running Arduino code as is on embedded Linux (BeagleBone Black)
- The project was later reused by Intel for their Linux SBCs

Intern, Oneirix Labs

Pune — 2012

- Built a prototype for patented image sensing technology
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- Developed firmware using C, Python and GNU Octave for complex matrix operations

PUBLIC PRESENTATIONS

Ever since my first job after college, I have been evangelizing the products and services that were built by the teams that I was a part of.

Some of the talks that I have presented are as follows -

Date	Title	Event	Link
June 2023	Zephyr 101	IoT Pune meetup, Pune	Recording
April 2020	Scaling Embedded Linux Devices from Prototype to Production	Live stream for Balena	Recording
March 2019	Voice assistants on Tiny, Low Cost Microcontrollers	FOSSAsia, Singapore	Recording
March 2019	ESP Jumpstart (later renamed to ESP Rainmaker)	FOSSAsia, Singapore	Recording
March 2017	Integrating voice in your products	India Electronics Week, Bangalore	Slides
February 2016	Exploring AWS IoT	Helium Ink meetup, Pune	Recording
January 2016	Beacons, Eddystone and the Physical Web	Droicon India, Bangalore	Recording
September 2014	Hardware Dashboard for DevOps	Deccan Ruby Conf, Pune	Recording

OTHER LINKS

LinkedIn <https://www.linkedin.com/in/deshpande-anuj/>

GitHub <https://github.com/anujdeshpande/>