

'The code we write saves the lives of drivers globally'

Avik.Das1@timesgroup.com

Divya Eswaraiah has been working as a software project component manager in automotive major Robert Bosch Engineering & Business Solutions (RBEI) for eight years in the airbag division. The last three have been as developmental lead. She has a 25-strong team.

The job involves writing hundreds of lines of code and it's at the core of passenger safety. "We do end-to-end software delivery of the airbag product. For all of us, it is a great moment of achievement when a product launches, because we know those lines of code are going to save people's lives," Eswaraiah says.

The software is the brain of the airbag control unit that detonates the airbag. The control unit is complex and critical. In just 10 milliseconds, that's 10 times faster than the blink of an eye, the trigger algorithm must interpret the sensor data to determine whether the driver has simply hit the brakes, bumped into a parked car, jumped the curb, or if the vehicle has had a severe collision or is at risk of rolling over.

If the situation demands, the system ignites the pyrotechnic gas generator. Based on the conditions at play, an airbag system decides to deploy in 5 to 45 milliseconds. The efficacy of these decisions has resulted in a high number of lives being saved. Since the product's inception, the team has helped save

around 90,000 lives worldwide.

Eswaraiah says safety and comfort are what the team aims for. In addition to providing safety to the occupants and pedestrians during a collision, "my codes help the airbag system continuously synchronise with other ECUs (electronic control units) and capture vital regulatory data that helps in research. It contributes towards building safer vehicles."

Eswaraiah says what attracts her to this world of innovation is software, which is at the centre of everything. "When you write the code and it works, it gives a feeling of immense satisfaction. And for us, it is about saving other lives,"

she says. Her team is now responsible for end-to-end development of the airbag platform, an upgrade from just supporting it previously. The work involves architecture design, coding, testing and delivering the product. They currently use C, C++, Perl and Python programming languages.

Eswaraiah feels the biggest challenge is to prepare for future unknowns, like automotive breakthroughs in autonomous driving, connectivity, electrification, and smart mobility. She is attracted by the creative thinking and problem solving aspects of coding. "Coding techniques are dynamic and keep evolving. There is always something new to learn, and try out. It doesn't get boring. This makes me look forward to new challenges at my job."

CODE WIZARD

We are starting this new column where we speak to brilliant coders. We focus on their work and the advice they have for young coders.

“Those getting into coding must be inquisitive and patient. Do a deep analysis of the topic, and keep the end user in mind while developing code.

Divya Eswaraiah |

DEVELOPMENTAL LEAD, ROBERT BOSCH ENGINEERING & BUSINESS SOLUTIONS (RBEI)

