

# Job Notification Form, IIT Delhi

## Company Overview

<b>Name:</b>	Robert Bosch Engineering and Business Solutions Private Limited
<b>Website:</b>	<a href="https://www.bosch-india-software.com/en/our-company/about-us/">https://www.bosch-india-software.com/en/our-company/about-us/</a>
<b>Company Type:</b>	Core (Technical)
<b>Description:</b>	<p>Robert Bosch Engineering and Business Solutions Private Limited (RBEI) is a 100% owned subsidiary of Robert Bosch GmbH. We are one of the world's leading global suppliers of technology and services, offering end-to-end Engineering, IT, and Business Solutions.</p> <p>With a global footprint and presence in US, Europe, Japan, China, and the Asia Pacific region, we are at the forefront of designing, developing, and executing IoT ecosystems through our all-encompassing capability within the 3 aspects of IoT – Sensors, Software, and Services.</p> <p>We have always focused on improving the quality of the life of people, providing newer revenue-generating opportunities, and improving operational efficiencies for enterprises through an array of solutions. With our unique ability to offer end-to-end solutions that connect Sensors, Software, and Services, we enable businesses to move from the traditional to digital, or improve businesses by introducing a digital element in their products and processes.</p>

## Job Details

<b>Designation:</b>	AUTONOMOUS DRIVING
<b>Type:</b>	Core (Technical)
<b>Place of Posting:</b>	Bangalore
<b>Job Details:</b>	<p>1. AUTONOMOUS DRIVING</p> <p>We are in the exciting and cutting-edge space of autonomous driving. We are looking for go-getters who would join us in this journey and design algorithms fit for Level 3 – Level 5 autonomous systems. If you really want to work on data and software, this is the place!</p> <p>Requirements: Engineering degree in E&amp;E, E&amp;C, CSE (B Tech– Dual degree)</p> <p>A. JOB DESCRIPTION -1:</p> <p>Here's what to expect!</p> <ul style="list-style-type: none"><li>&gt; You are developing video perception algorithms for unsolved problems in the technology area – perception for autonomous drive vehicle</li><li>&gt; You have to explain why something works or not using data – here you are a data guy. You have to find that elusive data through innovative algorithms, as we actually spend a lot of our time looking at data. And that's data science!</li><li>&gt; Your job would involve looking at the nature of the data and current AI algorithm performance, derive insights or patterns in failures, define a hypothesis for the solution making. You will also be responsible to conduct Experiments by building the needs of experiment using TensorFlow, Python, etc... You would also find effective means of documenting the experiment results and measure the effectiveness of the experiment.</li></ul> <p>Skills that we would love you to have, and which you will definitely have after working with us!</p>

- > Intuitive understanding of the DL math, model behaviors, techniques already available in open world
- > TensorFlow, Python, Pandas, Numpy, DASH, Jupyter notebook, etc.
- > Most importantly – data aptitude

#### B. JOB DESCRIPTION -2:

Here's what you will be doing at Bosch:

- > Develop cloud-based applications for acquisition, storage, curation and provision of data for the development of self-driving cars. Develop and maintain platform and application components like search engine, data visualization, data lifetime management and so on.

Skills that we would love you to have, and which you will definitely have after working with us!

- > Big data architectures, SQL and NoSQL databases, Data Management, Data warehousing and analytics platforms, Data Streaming and cloud services using Hadoop, Spark, RabbitMQ.
- > Cloud application orchestration systems like Kubeflow. Storage and retrieval algorithms and frameworks,
- > Web server, Web front-end development, User Driven development, Web based graphics frameworks, Web development frameworks like Java/.NETCore, springboot, Python, flask, Node.js, Docker, Front end development frameworks like Angular, React, three.js

#### C. JOB DESCRIPTION -3:

Here's what you will be doing at Bosch:

- > You are developing software in C++ using OOP, Templates, STL, RAII...
- > Highly optimized code for mathematical models (ex. Kalman Filters, Polynomial regression, Histogram filter)
- > Develop Localization and Mapping functions, sensor fusion, behavior algorithms and Computer Vision algorithms for Perception

Skills that we would love you to have, and which you will definitely have after working with us!

- > Strong programming skills with C++ and OOP
- > ROS: ROS1 / ROS2.0, Gazebo
- > Understanding and hands on experience with robotic functions like localization, perception, environment modelling, path planning etc..
- > Most importantly – I strive to build robot systems and transform the technology to Autonomous vehicles!!

#### D. JOB DESCRIPTION -4: CONNECTED MOBILITY - System on Chip / Middleware

What you'll be doing:

- > Design/Architect/Implement software solutions for BSP/File System/Middleware on state of the art, HW-accelerated automotive System on Chips
- > Develop software solutions, exploiting parallelism on multicore and HW acceleration

- > Provide solution for various software issues in complex systems/applications

Skills that we would love you to have, and which you will definitely have after working with us!

- > Practical hands-on experience designing and debugging SW on ARM & Intel CPU architecture
- > Deep understanding of RTOS/Linux operating system & Hypervisor
- > Good experience in low level software drivers for PCIe, DMA, Ethernet, GPU, MIPI CSI-2 & CAN
- > Detailed knowledge of multistage boot and various device driver models
- > Abreast with latest technological trends and specification in automotive world (e.g. Adaptive Platform)
- > Strong programming and debugging skills in C, C++ 14 onwards, Python and shell
- > Strong system software engineering skills to solve hard problems using profiling tools
- > Expertise in security/trusted software/safety/system would be very useful
- > Strong communication skills to collaborate with other engineers (worldwide)
- > Team player, self-motivated and with a good attitude and the ability to work

... team player, self motivated and with a good attitude and the ability to work independently with minimal direction  
Ways to stand out from the crowd:  
> Ability to work with little definition and supervision while multi-tasking and prioritizing across number of projects and initiatives

#### E. JOB DESCRIPTION - High Performance Compute

> We are into the business of developing high performance computers for under-the-hood vehicle applications that enable features like automated driving, driver assistance and connectivity.

What industry problems do we solve?

> We work on improving the state-of-the-art by solving problems like making high performance computing highly reliable for safety critical applications

> We pioneer application of microprocessors and hardware accelerators for automotive under-the-hood applications

What will you be working on

> Benchmarking SoCs and application architectures for performance and determinism

> Run AI based computer vision algorithms on HW accelerators like GPU

> Use HW accelerators for 3D and 2D visualizations

> Experimenting with lockless data exchange between threads, processes and processors

What abilities do we expect in you

> You are well versed with microprocessor architectures (SISD, SIMD), instruction set architectures and Networking

> You have good academic knowledge in compiler development and hands on knowledge in compiler toolchains like LLVM or GCC

> You have excellent theoretical knowledge on internals of UNIX-like operating systems and interprocess communications, and practical experience in Linux

> You are well-versed with programming language theory

> You have a strong foundation in mathematics – in Linear algebra, Coordinate geometry and Vector spaces

**Joining By:** 1 August 2022

## Salary Details

**CTC:** 1,600,000 INR Per Annum

**Gross:** 1,368,967 INR Per Annum

**CTC Breakup:** Components Per Month Per Annum

Rs. Rs.

Cash Components

Basic Salary 46667 560000

Buffet of Benefits (HRA, LTA, Telephone, SAF Contribution, etc) 67414 808967

Gross Salary 114081 1368967

Retirals / Statutory Contribution

Company Contribution towards Provident Fund (12% of Basic Salary) 5600 67200

Gratuity (4.81% of Basic Salary)\* 2245 26936

Total Retirals / Statutory Contribution 7845 94136

Variable Pay\*\*

Company Performance related Pay - CPrP at factor 1.0 company achievement 136897

Total Cost to Company 121925 1600000

National Pension System (NPS) Optional - Company Contribution 38000

**Perks / Bonus:** 2,00,000 INR (Two Lakhs Indian Rupees) - Joining Bonus

## Selection Process

<b>Resume Shortlist:</b>	Yes
<b>Written Test:</b>	No
<b>Online Test:</b>	No
<b>Group Discussion:</b>	No
<b>Medical Test:</b>	No
<b>Personal Interview:</b>	Yes
<b>No. of Rounds:</b>	2
<b>No. of Offers:</b>	25
<b>Minimum CGPA:</b>	7CGPA

## Eligibility

<b>Recruiting PHDs:</b>	No
<b>Eligible Departments:</b>	B.Tech in Computer Science & Engineering, B.Tech in Electrical Engineering, B.Tech in Electrical Engineering (Power and Automation), B.Tech and M.Tech in Computer Science & Engineering