Post(s)	**Senior Project Engineer** **- Embedded System, VLSI Design and IOT Technologies** **- Embedded System (Hardware)** **- Embedded System (Software)** **- VLSI Design (Physical Design)** **- VLSI Design (Logic Design)** **- Firmware/Software/Embedded System Design** **- Cryptography and Cryptanalysis Algorithms, Multi-Precision Libraries On GPUs (CS)** **- Cyber Security Hardware Software Appliance** **- System and Application Software UI/UX Engineering** **- Data Analytics – Artificial Intelligence (A I)/ Machine Learning (ML)** **– Quantum Computing** **-Project / Product Management Support Services - Solution Architect**
No. of Posts	25
Location	Bengaluru
Age	40 years at the time of submission of application
Educational Qualification	1. BE/B-Tech. or equivalent degree with 60% or equivalent CGPA in relevant disciplines** OR 2. Post Graduate degree in Science/ Computer Application or in relevant domain(s) with 60% or equivalent CGPA in relevant disciplines** OR 3. ME/M.Tech or equivalent degree in relevant disciplines** OR 4. Ph.D. in relevant discipline in relevant disciplines** **Relevant Disciplines: Computer Science/IT/ Computer Applications/Electronics /Electronics & Communication Engineering/Artificial Intelligence/Software Engineering/Machine Learning/Data Science/Blockchain/Cloud Computing/ Electronics & Instrumentation/Bioinformatics/Computer & Information Science/ Electronics & Nanotechnology/Electronics & Telecom Engineering/Geo Informatics Engineering/Information Science & Engineering/Mathematics & Computing/Telecommunication Engineering/ Quantum Physics or Electrical engineering, quantum computation theory, theoretical computer science, theoretical physics, or closely related field, or other related field
Post	3-7 years of post-qualification relevant experience relevant to the job description.

Qualification relevant Experience	
Desirable Skill Sets and Job Profile	**Senior Project Engineer –Embedded System, VLSI Design and IOT Technologies** • Hand-on experience in RTL simulation, verification and modeling using Verilog / VHDL / System Verilog. • Knowledge of Digital IC Design (Simulation/ Synthesis [ASIC/ FPGA]/ Static Timing Analysis/ Logic Equivalence Check/ Back-Annotation/). • Fundamentals of Computer Architecture, Arithmetic Units Design, Bus protocols Architecture and Design, Memory Controllers Design and SoC Design. Experience in prototyping the developed IP cores on FPGAs. • Fundamental understanding of digital RTL design, timing concepts and SoC Architectures (preferably RISC-V based). • Excellent analytical and problem-solving skills. Skilled to develop a project plan to monitor and track technical progress. **Senior Project Engineer –Embedded System(Hardware)** • Hands-on experience in working with Electronic System design, Circuits design, simulation, analysis, Debugging, ECAD tools, Signal Integrity/Power Integrity analysis tools, High speed board designs and analysis • Experience in working with Microcontrollers, Interfacing Peripherals, Memories, sensors, actuators, mechatronic/robotic components, power management system etc. • Working knowledge in end to end Electronic system design, development, fabrication, assembly, testing, EMI/EMC, SI/PI, Thermal, Environmental compliance and standard certification. • Knowledge in VLSI, Embedded C Programming, Microcontroller assembly programing, Python MCAD design tools, System integration, wiring, packaging • Meeting the desired technical competencies for end to end embedded system hardware design and development based on the project requirement. Self-motivated, goal oriented and strong in problem solving skills are desired. **Senior Project Engineer –Embedded System(Software)** • Hands-on experience in working in Embedded software development. OS/RTOS, Device Drivers • Strong programming and debugging skills in C/Embedded C, C++, Java, Python, Assembly • Strong knowledge in Data structures, Operating System concepts, RTOS, Device Drivers,

	Networking concepts, Network protocol stacks, third party module integration • Working knowledge in Microcontroller architecture, understanding Electronic circuits/schematics • Knowledge in Electronic Hardware design and development,/VLSI • Knowledge in Data analytics, machine learning, AI/ML for embedded systems • Meeting the desired technical competencies for end to end embedded system firmware and software development, • Testing and debugging based on the project requirement. • Self-motivated, goal oriented and strong in problem solving skills. **Senior Project Engineer (SPE) – VLSI Design (Physical Design)** • Experience in Physical Design handling Netlist to GDSII flow. • Experience in ASIC Synthesis, Floor Planning, Placement Optimizations, CTS, Routing and Timing Closure of Full-Chip designs. • Experience in physical verification (DRC/LVS/ERC) checks and reliability checks. • Hands-on-experience in Electronic CAD tools for layout design and physical verification. • Basic understanding of VLSI process, Electron Device Characteristics, IC Fabrication Technologies and IC packaging. • Good understanding of timing, power and area tradeoffs in design. • Basic knowledge of scripting languages is desirable. • Good debugging, problem solving/ analytical skills. • Good interpersonal skills and ability to work in a team and guiding fresher's. **Senior Project Engineer –VLSI Design (Logic Design)** • Hand-on experience in RTL simulation, verification and modeling using VHDL/ Verilog/ System Verilog. • Knowledge of Digital IC Design (Simulation/ Synthesis [ASIC/ FPGA]/ Static Timing Analysis/ Logic Equivalence Check/ Back-Annotation/ DFT). • Experience in prototyping the developed IP cores on FPGAs. • Fundamentals of Computer Architecture, Arithmetic Units Design, Bus protocols Architecture and Design, Memory Controllers Design and SoC Design etc. • Crypto Hardware Design • DSP architecture Design • AI/ML Hardware Accelerators Design • Basic knowledge of C & Assembly level programming and scripting. • Good debugging, problem solving/ analytical skills. Good interpersonal skills and ability to work in a team and guiding freshers. **Senior Project Engineer (SPE)– Firmware/Software/Embedded System Design**

	• Hand-on experience with embedded systems firmware development using C, C++ & Assembly level programming and scripting etc. • Hand-on experience in Driver Development for bare metal/RTOS/Linux. • Knowledge on various RTOS concepts with RTOS Programming and Debugging. • Knowledge on Inter Process Communication • Enabling / Porting an RTOS for SoC / Processor • Processor Start-up code / Boot Codes development • Hand-on experience on configuration of RTOS for a SoC / Processor core and boot code enhancements, board support package modifications. • RTOS Priority model and its configurations related topics • Development of Peripheral drivers for Microcontroller • Fundamentals of Linux kernel internals • Makefile and Kernel build procedures • Kernel APIs to process device tree nodes, peripherals, I/Os • Linux GPIO Subsystem • RTOS Debugging using Debugger Softwares • Experience in FreeRTOS/RTLinux/Zephyr/embOS/Vx Works • Porting of RTOS/Linux on RISV-V SoC • Bringing up and debugging hardware using JTAG etc. ME/M. Tech or equivalent Project thesis in the areas of secured firmware/software, secured operating system/microkernels, secured boot, software enablement for custom instructions for a processor, etc. are desirable. • Basic knowledge of C & Assembly level programming and scripting. • Good debugging, problem solving/ analytical skills. • Performing Code Reviews Good interpersonal skills and ability to work in a team and guiding fresher's. **Senior Project Engineer – Cryptography and Cryptanalysis Algorithms, Multi-Precision Libraries On GPUs (CS)** • Experience in C/C++ programming and algorithmic development. • Design thinking, scripting, product/library development experience • Exposure to parallel programming (OpenMP/MPI)/GPU programming (CUDA/OpenCL) • Knowledge of Python Programming • Knowledge of Unix/Linux OS • Good debugging, problem solving / analytical skills. • Knowledge of Asseambly Language • Knowledge of Cryptographic algorithms and their implementation • Basic Knowledge of Theory of Probability • Abstract Algebra and Number Theory (Desirable)

	• Good interpersonal skills and ability to work in a team. • Quick learner and ability to work on varied tasks **Senior Project Engineer – Cyber Security Hardware Software Appliance** • Proficient Knowledge in Public Key Cryptography, and major Network Security Protocols • Proficient Knowledge in Layer 4-7 protocols and their security audits • Proficiency in Python, Linux, Shell Programming, C and Java • Proficiency in Nessus, Burpsuite, Metasploit framework, Sonarqube tools • In depth understanding of Operating systems, and Networking concepts • Proficient Knowledge of Openstack and other cloud infrastructure management tools • Proficient Knowledge of Zero Trust Architecture, Blockchain & Distributed trust models, Quantum safe design, Privacy aware design etc... Journal and Conference publications of repute • Experience in formulating Secure Network Architectures, policies etc. • Experience in Managed Security Services over cloud • Experience in formulating Cyber Security Policy, conducting cyber security assessments, drills; Knowledge of cyber security capability maturity models • Experience in formulating Business Continuity Planning; Managing Data Centres and/or Disaster Recovery sites and/or Security Operation Centres • Proficiency in Device and network forensics • Excellent oral and written communication skills Knowledge and experience in technical documentation and authoring technical publications. **Senior Project Engineer – System and Application Software UI/UX Engineering** • WebApp/UI/UX • Java, Bootstrap, HTML5 and CSS • Jquery, JBOSS, Spring Framework and Spring Batch • React/Angular • MySQL/PostgreSQL/Oracle Database • RESTful APIs and API Gateway • Java Template Engines (Thymeleaf or any other relevant tools) • Wireframing and Rapid Prototyping tools • Familiarity with agile practices • DevOps tools • Continuous integration and delivery • Excellent oral and written communication skills • Other preferred skills: Microservices and containerization tools • WebApp/UI/UX

	• Performing user research, creating user personas and Information architectures • Preparing UX Specification documents/presentations and UI Style guides • Design & Development of webApps/UI, databases and other components • Design & Development of backward compatible multi-release Jars/modules and integration • Design & Development of Database migration modules • Participate in bug fixing, resolution of production issues and develop solutions • Designing wireframes and building clickable UI prototypes • Identify, prioritize and execute tasks as per the chosen SDLC • Involve in internal reviews like code walkthroughs, inspection and unit-review tests • Technical documentation and Demonstration • Working with the teams to complete integration of the developed components with the rest of the system. • Setting up of development and deployment environment • Interaction with users, clients and other stakeholders • Able to clearly and concisely articulate ideas and updates **Senior Project Engineer – Data Analytics – Artificial Intelligence (A I)/ Machine Learning (ML)** • Data mining, Text mining techniques, CRISP-DM • Machine Learning algorithms, Neural network based Deep Learning algorithms of various types • Exploratory Data analysis, Data pre-processing, feature engineering • ML/DL model building with big data sets and small training data sets, ML/DL prediction model tuning using boosting, stacking, ensemble techniques • Testing, monitoring performance and upgrading of AI/BDA/ML/DL applications • Graph data modeling using graph database tools, graph data analytics techniques • Data visualization techniques and presentation • Knowledge of techniques for Natural language processing (NLP), Speech processing and Image & Video processing • Applications building using BigData Analytics/ML/DL frameworks like Hadoop, Spark, Kafka, TensorFlow, Keras, ScikitLearn • Programming with APIs and Libraries of Python, R, Scala, Java, Javascript • Knowledge of tools and techniques for managing the ML/DL applications life cycle, Responsible AI best practices and techniques. • Analyze business requirements, explore and understand big data and define and scope data science requirements • Architecting solutions for complex systems; Data modeling and dependency analysis. • Able to handle brownfield migration projects • Lead and guide teams across the Organization in full lifecycle processes implementation, (requirements specification, design, implementation, testing, deployment, and maintenance) of AI/ big data analytics/Machine Learning/Deep Learning applications • Monitor performance of AI/BDA/ML/DL applications and implement upgrades/releases • Present to top management prospects/achievements of Data analytics applications • Concurrently work on multiple data analytics applications

	• Deep domain and implementation experience in one or more areas like cyber security, healthcare, smart city • Excellent oral and written communication skills. • Knowledge and experience on technical publications and patent process. • Senior Project Engineer – Quantum Computing • Verilog HDL, Vivado/FPGA programming tool, C programming, Vitis/SDK/IDE tool, • Good knowledge of Digital and Analog Electronics, Digital VLSI, Static Timing Analysis • Knowledge of Digitl Communication (e.g. Digital modulation schemes ASK, FSK, PSK) • Knowledge of Cryptography, Digital signal processing • Embedded programming • Quantum technologies basics • Design and Development of the Quantum Simulators/Testing Frameworks/Software Interfaces and Integration • Python programming (PySerial, NumPy, SciPy, Tkinter, SCPI, QT, Socket), UI design in Python, data analytics: classification, regression, neural network, dimensionality reduction etc. databases, SQL, Hadoop, data visualization: power BI, Tableau etc. • Operating system: Linux • Quantum technologies basics Design and Development of the Quantum Simulators/Testing Frameworks/Software Interfaces and Integration • Hand-on experience with Experimental Quantum Optics • Working with single photon experiments, Handling of lasers, Fiber communication. • Knowledge of Quantum Computing Algorithms and Applications • Undertake theoretical and/or applied research on near-term quantum computing algorithms, applications and/or enabling theoretical technologies • Help to author publications, presentations, patent applications and similar resulting from the research • Lead and motivate cross-functional teams and interact with all levels • Evaluates complex situations using multiple sources of information fi lters, validates and interprets dynamic material • Analysis, planning, developing requirements documents, building functional models, developing procedures, developing functional architectures, and other related management and technical duties • Understanding of software development life cycle models • Sufficient level of technical background to provide highly-credible leadership to development teams and to be able to accurately and objective to evaluate complex project risks and issues Knowledge and experience of technical publications and patent process. **Senior Project Engineer – Project / Product Management Support Services - Solution Architect** • Should have delivered at least one product or service or platform either as a software or embedded system. • Experience in handling a team of developers and carry out technical project management. • Demonstrated ability to propose alternate solutions to a given problem and able to articulate the trade-offs among them.

	• Experience with configuration management and test automation frameworks Experience. • Experience security/performance monitoring and tuning • Should have excellent written and verbal communication skills Working experience in large-scale distributed systems is an added advantage. • Independently propose and manage solutions in one or more of the areas including AI/ML, High Performance Computing Software, Quantum Computing, Cyber Security, IoT Applications, Industrial Systems, VLSI and Language Computing. • Assessing the systems architecture currently in place and working with technical staff to recommend solutions to improve it. • Manage stakeholders both internal and external. • Resolving technical problems as they arise. • Providing supervision and guidance to development teams. • Continually researching current and emerging technologies and proposing changes where needed. • Providing updates to stakeholders on product development processes, costs, and budgets. • Technical risk management • Analyzing and documenting requirements • Setting the collaboration framework Supporting project management • Coordinate internal resources and third parties/vendors for the flawless execution of multiple projects • Ensure that all projects are delivered on-time, within scope and within budget • Assist in the definition of project scope and objectives, involving all relevant internal stakeholders and ensuring technical feasibility • Ensure resource availability and allocation • Develop a detailed project plan to monitor and track progress • Manage changes to the project scope, project schedule, and project costs using appropriate verification techniques • Measure performance using appropriate project management tools and techniques • Report and escalate to management as needed • Manage the relationship with the client and relevant stakeholders • Perform risk management to minimize potential risks • Establish and maintain relationships with third parties/vendors • Create and maintain comprehensive project documentation • Meet with clients to take detailed ordering briefs and clarify specific requirements of each project • Delegate project tasks based on junior staff members' individual strengths, skill sets, and experience levels • Track project performance, specifically to analyze the successful completion of short and

	long-term goals • Meet budgetary objectives and make adjustments to project constraints based on financial analysis • Develop comprehensive project plans to be shared with clients as well as other staff members • IT Infrastructure support, Internal Application development and support, software quality Assurance, Project & Program Management, Business Development and other support services • Use and continually develop leadership skills • Attend conferences and training as required to maintain proficiency • Perform other related duties as assigned Develop spreadsheets, diagrams and process maps to document needs • Proven working experience in project management • Excellent client-facing and internal communication skills • Excellent written and verbal communication skills • Solid organizational skills including attention to detail and multitasking skills • Strong working knowledge of Microsoft Office • Project Management Professional (PMP) / PRINCE II certification is a plus Experience with project management software tools
Salary	*Initial CTC (with min. exp. required) Rs. 8.49 LPA to Rs. 14 LPA (Candidates with higher experience within the given bracket will be offered higher salary as per policy
Duration	Initially for a period of 3 years