

Post	Project Engineer
No. of Posts	90
Location	Bengaluru
Age	35 years at the time of submission of application
Educational Qualification	<p>1st Class (60%) B.E/B. Tech. /MCA or equivalent degree in relevant disciplines**</p> <p>2. Post Graduate degree in Science/ Computer Application or in relevant domain(s) with 60% or equivalent CGPA**</p> <p>OR</p> <p>3. ME/M.Tech or equivalent degree**</p> <p>OR</p> <p>4. Ph.D. in relevant discipline**</p> <p>**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/ /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.</p>
Post Qualification relevant Experience	0-4 years of post-qualification relevant experience relevant to the job description.
Desirable Skill Sets and Job Profile	<p>Project Engineer –Embedded System, VLSI Design and IOT Technologies</p> <p>Desirable Skills (in one or more topics)</p> <ul style="list-style-type: none"> • Verilog HDL coding and Verification, C, Matlab coding and simulations • EDA tools Mentor Graphics/Cadence/Synopsys, FPGA tools Xilinx, Circuits schematic design and verification • Understanding of VLSI, DSP, Wireless Communication Protocols, Embedded systems and Internet of Things, Analog and Digital Circuits and Signal processing

- Analog and Digital Mixed VLSI Design
- Knowledge in wafer level characterization – parametric analyzer, etc.,
- Knowledge in CMOS technology libraries. Journal and Conference publications.

Job Profile and other Skills

- Writing Verilog RTL coding for wireless protocols – PHY and MAC layers, FPGA/ASIC implementation of wireless protocols, leading a team on SoC design and verification
- Project management tools, Version control and management tools,
- Good interpersonal skills, Good verbal and writing skills, knowledge and experience on technical publications and patent process
- Basic knowledge of C & Assembly level programming and scripting.

Project Engineer – VLSI Design (Digital / Analog)

DIGITAL VLSI DESIGN

- Knowledge of RTL design, simulation, and modeling using VHDL/Verilog/ System Verilog.
- Knowledge of Digital IC Design (Simulation/ Synthesis [ASIC/CDaCB12!@FPGA])
- Fundamentals of Computer Architecture, Arithmetic Units Design, Busprotocols Architecture and Design, Memory Controllers Design etc.
- Basic understanding of IC physical design, CMOS layout design, VLSIprocess,
- Electron Device Characteristics, IC Fabrication Technologies and ICpackaging.
- M. Tech Project thesis in the areas of RTL design / VLSI Design / VLSI architecture / Digital ASIC Custom Design / Semi-custom ASIC Design etc. related topics are preferred.

ANALOG VLSI DESIGN

- Custom Analog Circuits design Schematic, SPICE simulation
- Analog Layout Design
- Post layout analog simulation
- Understanding on analog PDKs
- Basic understanding of IC physical design, CMOS layout design, VLSI process,

- Electron Device Characteristics, IC Fabrication Technologies and IC packaging.
- M. Tech Project thesis in the areas Digital ASIC Custom Design / Semi-custom ASIC Design / Custom Analog Circuit Design related topics are preferred.

Project Engineer –VLSI Design

DIGITAL VLSI DESIGN

- Hands on experience in RTL design, simulation, and modeling using VHDL/ Verilog/ System Verilog.
- Hands on experience in Digital IC Design (Simulation/ Synthesis [ASIC/ FPGA])
- Fundamentals of Computer Architecture, Arithmetic Units Design, Bus protocols Architecture and Design, Memory Controllers Design etc.
- Basic understanding of IC physical design, CMOS layout design, VLSI process,
- Electron Device Characteristics, IC Fabrication Technologies and IC packaging.
- PG Diploma Project/ Experience in the areas of RTL design / VLSI Design / VLSI architecture / Digital ASIC Custom Design / Semi-custom ASIC Design / Verification etc. related topics are preferred.

ANALOG VLSI DESIGN

- Hands on experience in Custom Analog Circuits design Schematic, SPICE simulation
- Hands on experience in Analog Layout Design
- Hands on experience in Post layout analog simulation
- Understanding on analog PDKs
- Basic understanding of IC physical design, CMOS layout design, VLSI process,
- Electron Device Characteristics, IC Fabrication Technologies and IC packaging.

PG Diploma Project/experience in the areas Digital ASIC Custom Design / Semi-custom ASIC Design / Custom Analog Circuit Design / Analog Layout related topics are preferred.

Project Engineer – 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 Free RTOS/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.

Project Engineer – VLSI Architecture / VLSI Circuit / VLSI System / Microelectronic Circuit Design

- Processor Micro-architecture design
- Custom Instructions/Instruction Set Extensions Design and micro-architecture
- Secured Processor
- Approximate Arithmetic Circuits
- AI/ML Hardware Accelerators
- In-memory Compute Circuits
- Crypto Hardware Accelerators including for Post Quantum Crypto Schemes
- System On Chip / Network On Chip Interconnect Designs
- Analog Circuits.

Project Engineer – Cryptography and Cryptanalysis Algorithms, Multi-Precision Library On GPUs (CS)

Desired Skill set (in one or more topics)

- Knowledge of Unix/Linux OS
- Knowledge of Python Programming
- Expert knowledge of ‘C’ and exposure to shell scripting.
- Expert knowledge of Data Structures, Algorithms and their implementations

Job Profile and Other Skills :

- Experience in C/C++ programming and algorithmic development is desirable.
- Knowledge of Assembly Language
- Good debugging, problem solving / analytical skills.
- Exposure to parallel programming (OpenMP/MPI)/GPU programming (CUDA/OpenCL) (Desirable)
- 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.

Project Engineer – Cryptography and Cryptanalysis Algorithms, Multi-Precision Library On GPUs (Mathematics)

Through Knowledge of following in the following

- Abstract Algebra, Field Theory, Number Theory and Linear Algebra.
- Experience in C/C++ programming and algorithmic development is desirable.
- Knowledge of Unix/Linux OS
- Exposure to parallel programming (OpenMP/MPI)/GPU programming (CUDA/OpenCL)
- Knowledge of Cryptographic algorithms and their implementation
- Basic Knowledge of Probability Theory.
- Good interpersonal skills and ability to work in a team.
- Quick learner and ability to work on varied tasks.

Project Engineer – Cyber Security Hardware Software Appliance

Desired skill sets

- Embedded C & Advanced “C” Programming
- Micro Controller Programming
- Knowledge in Cryptographic protocols, Key generation and key exchange protocols
- Expertise in VAPT, Infrastructure Audit, Web Application Security Testing, Secure Code Review, database security, OWASP Top10, Mobile application

- In depth understanding of operating systems including RTOS and Networking and their patch management
- Professional certifications in the area of cyber security and privacy
- Bio-metric/multi-factor/continuous authentication protocol design and deployment experience
- Experience in managed security services
- Knowledge of emerging trends including Zero Trust Architecture, Quantum safe design, Privacy aware design
- Journal and Conference publications of repute.

Job Profile and Other Skill sets

- Design and develop hardware based embedded security modules, Transport Layer Security (TLS) and Trusted Platform Module (TPM), TPM backed TLS with light weight embedded Cryptographic algorithms.
- Expertise in Nessus, Burpsuite, Metasploit framework, Sonarquib tools
- In depth knowledge of C,C++ , java and scripting languages perl & python
- Strong Device forensic and network forensics
- Experience in adapting FOSS for specific use cases and applications
- Plan and execute various VAPT, Audit services skills with experience in encase, FTK etc .
- Experience in Security Operation Centre Management
- Excellent oral and written communication skills.
- Knowledge and experience on technical publications and patent process.

Project Engineer – System and Application Software UI/UX Engineering

Desired skill sets

- System Software/HPC Application Software
- HPC Software Architecture, Analysis and Design
- CPU/GPU/TPU programming
- Systems Programming
- Experience in Model Based Engineering
- Experience in Formal Methods and Program Analysis
- Application Profiling, Hands on experience in Parallel Application Programming & Debugging, HPC Profiler internals, Product development knowledge
- Experience in MPI/OpenMPI/...
- Experience with various processor architectures including ARM/Intel/PowerPC/RISC/CISC
- Experience with adapting Open Source Systems at kernel level and BSP level for specific applications and requirements

Job Profile and Other Skill sets

System Software/HPC Application Software

- Design and Develop an Application Profiler for Petascale Systems
- Design and Development of Automatic Parallelizing Compiler Product for HPC
- Design and Development of Petascale HPC Cluster Software Solutions
- Heterogeneous HPC systems benchmarking, analysis and integration to other software
- Design and Development of OS/Libs/Utils/Compiler/Debugger and Profiler for ARM HPC SoC
- Technical publications and patents

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

	<ul style="list-style-type: none"> • 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. <p>Project Engineer – Quantum Computing</p> <ul style="list-style-type: none"> • Proven expertise in quantum computing, quantum algorithm analysis and design, quantum simulators • Design thinking, full stack, scripting, product development experience • Knowledge of electronic devices, Measurement Frameworks • Python Programming • Design and Development of the Quantum Simulators/Testing Frameworks/Software Interfaces and Integration • Excellent oral and written communication skills. <p>Knowledge and experience on technical publications and patent process.</p>
Salary	*Initial CTC Rs. 4.49-Rs. 7.11/-lakhs per annum based on the post qualification relevant experience as per C-DAC norms
Duration	Initially for a period of 3 years