SAMSUNG

Samsung Electronics
Full-Time Opportunity for International Students

Division	Job	Major	Location
DS	Circuit Design	Electrical/Electronics Engineering, Science/Engineering Etc.	Giheung/ Hwaseong/ Onyang/ Pyeongtaek
	Process Design	Electrical/Electronic Eng., Material/Metal Eng., Chemistry/Chemical Eng., Mechanical Eng., Physics, Mathematics, Statistics, Science/Engineering Etc.	Giheung/ Hwaseong/ Onyang/ Pyeongtaek
	Process Technology	Electrical/Electronic Eng., Material/Metal Eng., Chemistry/Chemical Eng., Mechanical Eng., Physics, Mathematics, Statistics, Science/Engineering Etc.	Giheung/ Hwaseong/ Onyang/ Pyeongtaek
	Software R&D	Computer Science, Electrical/Electronic Eng., Mechanical Eng., Industrial Eng., Mathematics, Statistics, Science/Engineering Etc.	Giheung/ Hwaseong/ Onyang/ Pyeongtaek

Job Description

Device Solutions

Circuit Design

Giheung/Hwaseong/Pyeongtaek, Gyeonggi

Onyang, Chungcheong

R&D on design/evaluation/planning based on semiconductor-related knowledge

Role

- **Circuit Design**
  - Understand product requirements and design/verify digital and analog circuits and systems
  - Design patterns (layouts) for implementing the designed/verified circuit as a chip
  - Evaluate wafer/package Embedded with the designed circuit

- **Design product evaluation and optimization**
  - Establish Functional & Timing Verification Environment using Simulation Tool and verify the designed circuit
  - Circuit verification to maximize coverage for product operation based on SPEC and actual environment
  - Development of verification environment and circuit verification methodology for improvement of design completeness

- **Design circuit verification (Simulation, Logic)**
  - Improvement of completeness through analyzing / optimizing integrated characteristics (reliability, performance, quality, function, etc.)
  - Progress and improvement activities of SW and HW defect analysis in products
  - Development of design automation method (CAD / CAE)

Requirements

- Electrical/Electronics Engineering or related major
- Knowledge of semiconductor basic operation principle, signal processing, data mining, performance analysis

Job Description

Pluses

- Experience in semiconductor chip design
- Experience with semiconductor development related tool
  (SPICE Simulation, Schematic Editor, Layout Drawing, Trace32, Power Supply, Logic/Protocol Analyzer, etc.)
- Knowledge of programming language (C++, System Verilog, Python, VBA, etc.)

Job Description

Device Solutions

Process Design

Giheung/Hwaseong/Pyeongtaek, Gyeonggi

Onyang, Chungcheong

R&D on process management/yield improvement/device/measurement technology based on semiconductor knowledge

Role

- **Process Integration**
  - Development of optimum process condition (Recipe)
  - Analysis of process failure, optimized layout and mask design for each process
  - Process design and implementation to ensure product quality and performance

- **Device Development**
  - Device design satisfying the performance and characteristics
  - Study on improvement of device characteristics and reliability for ensuring mass production of products

- **Failure Analysis**
  - Analysis of the causes of defects by evaluating the characteristics of the design and process products
  - Analysis of failure cause by electrical, physical and statistical failure analysis

- **Yield Enhancement**
  - Determination of process structure of mass-produced products and presentation of production standards
  - Study on product development / production activities such as manufacturing, process technology conditions, product characteristics, cost, yield and quality
  - Improve the process by identifying the cause of product failure

Job Description

Requirements

- Electrical Engineering, Material Science, Chemistry and Chemical Engineering, Mechanical Engineering, Physics, Industrial, Math, Statistics or related major
- Knowledge of semiconductor basic operation principle, signal processing, data mining, performance analysis

Pluses

- Experience in semiconductor chip design
- Experience with semiconductor development related tool
  (SPICE Simulation, Schematic Editor, Layout Drawing, Trace32, Power Supply, Logic/Protocol Analyzer, etc.)
- Knowledge of programming language (C++, System Verilog, Python, VBA, etc.)

Job Description

Device Solutions

Process Technology

Giheung/Hwaseong/Pyeongtaek, Gyeonggi

Onyang, Chungcheong

R&D on process management/yield improvement/device/measurement technology based on semiconductor knowledge

Role

- **Process Development**
  - Improve process by optimizing mass production and simplifying the overall process
  - Standardize process conditions to improve yield and quality, control bottleneck process
  - Develop eight semiconductor process technologies
    (Photo, Etch, Clean, CMP, Diffusion, IMP, Metal, CVD)
  - Quality control by regular process monitoring
  - Resolve persistent defects and improve quality by collaborating with facility technology

- **Manufacturing Science**
  - Improve measurement process productivity, match measurement output
  - Develop product and improve quality by analyzing atomic level device structure and interface reaction
  - Analyze and improve physical and chemical properties of products
  - Increase productivity and maximize efficiency by improving material yield/quality
  - Acquire advanced manufacturing technology (patent, new analysis method, simulation technique, etc.)

Requirements

- Electrical Engineering, Material Science, Chemistry and Chemical Engineering, Mechanical Engineering, Physics, Industrial, Math, Statistics or related major
- Knowledge of semiconductor basic operation principle, signal processing, data mining, performance analysis

Job Description

Pluses

- Experience in semiconductor chip design
- Experience with semiconductor development related tool
  (SPICE Simulation, Schematic Editor, Layout Drawing, Trace32, Power Supply, Logic/Protocol Analyzer, etc.)
- Knowledge of programming language (C++, System Verilog, Python, VBA, etc.)

Job Description

Device Solutions

Software R&D

Giheung/Hwaseong/Pyeongtaek, Gyeonggi

Onyang, Chungcheong

Research and develop solution products using semiconductor based on S/W technology knowledge

Role

■ **Firmware, Middleware, System S/W, Application S/W Development**

- Develop software that meets the requirements of products
  (SSD, DRAM Module, CPU, GPU, Multimedia, etc.)
- Apply and evaluate firmware and S/W product, optimize product performance
- Develop Protocol, Device Driver, Linux, Windows S/W
- Develop S/W platform

■ **Smart Factory Establishment**

- Develop BSP, Machine/Deep learning, Voice/Natural Language Processing
- Generate encryption, embedded system security, communication/network security, security evaluation, reverse engineering, etc.
- Automotive S/W Platform development

■ **Automotive, AI, IoT, Cloud, Security S/W Development**

- Develop facility/infrastructure automation system (analysis/control system, monitoring system development)
- Advance production automation system (production control system, system control, logistics transportation system development)

■ **S/W Engineering**

- Improve development methodology and process, establish and automate infrastructure/tools, develop S/W analysis and manage quality assurance
- Manage S/W development process regulation
- Data Center Engineering
  · High Performance Computing, NAS Storage & File System Sharing
  Data Center Design & Operation

Job Description

Requirements

- Competence in programming language (C, C++, C#, Python, Java, etc.) with rigorous problem solving attitude towards algorithms
- Ability to understand requirements and design/implement proper software

Pluses

- Experience related to software research and development
- Experience in software/hardware platform implemented projects
  (SPICE Simulation, Schematic Editor, Layout Drawing, Trace32, Power Supply, Logic/Protocol Analyzer, etc.)
- Ability to communicate with foreign corporation