SAMSUNG
ELECTRONICS

Memory/Storage

Positions

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Samsung Semiconductor 2019 Internship Roles

Storage/Memory Positions

Memory System Accelerator Architect (Intern)	**San Jose, CA**
Memory System Architect (Intern)	**San Jose, CA**
Systems Architect (Intern)	**San Jose, CA**
Performance Analysis Engineer (Intern)	**San Jose, CA**
Performance Architect Engineer (Intern)	**San Jose, CA**
GPU Engineer (Intern)	**San Jose, CA**
FPGA Engineer (Intern)	**San Jose, CA**
Compiler Engineer (Intern)	**San Jose, CA**
FPGA Software Engineer (Intern)	**San Jose, CA**
Software Engineer - Storage Software (Intern)	**San Diego, CA**
Enterprise SSD Firmware Engineer (Intern)	**San Jose, CA**
System Hardware Engineer (Intern)	**San Jose, CA**
Systems Software Engineer (Intern)	**San Jose, CA**

Early Career Full time

System Architect, Ph.D. University Graduate	**San Jose, CA**
System Hardware Engineer – Ph.D. University Graduate	**San Jose, CA**
Senior/Staff Software Engineer	**San Jose, CA**
Senior Software Engineer	**San Jose, CA**

Instructions:

Apply to jobs using the links provided. Also see:

https://www.samsung.com/us/samsungsemiconductor/2019internships/

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Memory System Accelerator Architect (Intern)

Based in San Jose, California, Samsung Semiconductor, Inc. (SSI) is a multi-billion dollar subsidiary of Samsung Electronics, Ltd. and a world leader in Memory, System LSI and LCD technologies. We provide the widest range of memory, logic, storage devices, LED components and LCD/OLED panels to enhance the user experience in home entertainment, mobile devices, lighting and computing. SSI has advanced R&D labs focused on product design and research in memory, displays, logic, image sensors, and mobile technologies.

The Memory Platform Lab (MPL) is part of Samsung's Memory Business Unit, the industry's technology and volume leader in DRAM, NAND Flash, SRAM memory. MPL's vision is to solve key problems & optimize architecture Platform for Cloud & Data center environments. We are an integral part of Samsung's strong R&D focus & lab innovation engine. We work closely with development teams to bring feature innovation to product roadmaps.

Come join the team that is creating new computing system architectures needed to support emerging machine learning applications, internet of things (IoT) and edge computing. You'll work with experimental hardware, enhance systems software and applications to optimize the end-to-end architecture benefiting millions of users.

We are currently looking for a Memory System Architect (Intern) to join our team in San Jose, CA for the summer of 2018. The Memory System Architect Intern will contribute memory and storage system research in the System Architecture Lab. He or she will join a team of experts in researching and developing innovative memory and storage system solutions that utilize existing and emerging technologies to add substantial value to server systems. The ideal candidate must have a strong understanding of computer architecture, memory and storage system, and operating system.

Job Responsibilities:

- Contribute technical path finding of computation acceleration architecture in memory system.
- Contribute technical path finding of novel memory and storage architecture
- Contribute memory and storage system performance modeling, and sever workloads characterization.
- Define component level requirement of memory and/or storage components.
- Work with team members to guide implementation and prototyping efforts.
- Create new and useful IP, publish at conferences, and generate whitepapers.

Skills:

- Pursuing MS/PhD in Computer Architecture, Electrical Engineering, Computer Science or related field.
- Deep understanding of memory and storage architecture trade-offs and GPU architecture.
- Good understanding of machine learning application and related software/hardware architecture.
- Experience in memory/storage subsystem performance modeling.
- Experience in memory system design or storage system design will be great plus.
- Track record of innovation and creativity in problem solving.
- Must be highly motivated with excellent verbal and written communication skills.
- Research and development experience with modeling, performance analysis, simulation tool development.
- Strong background in C/C++ programming
- Comfortable working in a multinational environment and understands how to leverage cultural diversity.
- Good technical spark and inherent technical curiosity.

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Memory System Architect (Intern)

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Job Responsibilities:

- Contribute technical path finding of novel memory and storage architecture using emerging memory technology.
- Contribute memory and storage system performance modeling, and sever workloads characterization.
- Define component level requirement of memory and/or storage components.
- Work with team members to guide implementation and prototyping efforts.
- Create new and useful IP, publish at conferences, and generate white papers.

Required Skills:

- Pursuing a MS/PhD in Computer Architecture, Electrical Engineering, Computer Science or related field.
- Deep understanding of memory and storage architecture trade-offs in terms of performance and energy efficiency.
- Experience in memory/storage subsystem performance modeling.
- Good knowledge of data centers, and typical applications.
- Experience in memory system design or storage system design will be great plus.
- Track record of innovation and creativity in problem solving.
- Must be highly motivated with excellent verbal & written communication skills.
- Research and development experience with modeling, performance analysis, simulation tool development.
- Strong background in C/C++ programming
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Systems Architect (Intern)

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Come join the team that is creating new computing system architectures needed to support emerging machine learning applications, internet of things (IoT) and edge computing. You'll work with experimental hardware, enhance systems software and applications to optimize the end-to-end architecture benefiting millions of users.

Job Responsibilities:

- Analyze and develop applications and build prototypes demonstrating application benefits.
- Take design from concept modeled with software to implement as a solution with applications, software, firmware and hardware.
- Create compelling publications to convey the value of solutions to internal and external partners, customers, technical leadership and peer-reviewed journals.
- Conduct full-stack performance analysis of distributed datacenter applications, diagnose compute storage and bottlenecks, and propose architecture improvements.
- Build prototype hardware models and develop software demonstrating the value of the proposed architectures.

Required Skills:

- Enrolled in MS or PhD Programs in Computer Architecture, Computer Science, Electrical Engineering, or related field.
- In depth knowledge of CPU, memory, storage and current system architectures and experience building & modeling full systems.
- Background in performance modeling and with software performance analysis tools and methodologies
- System software skills including knowledge of I/O and Linux networking stack
- Software development in C/C++ & Java with experience in distributed processing frameworks
- Experience with hardware description languages or high level synthesis languages.

Preferred Skills:

- Experience using FPGA's or GPU for prototyping new hardware accelerated architectures
- Knowledge of SSD and flash architecture
- Solid understand of Linux / Windows performance analysis tools and methods.
- Deep understanding of emerging applications such as Machine Learning Caffe, Tensorflow, and Genomics

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Performance Analysis Engineer (Intern)

Samsung Semiconductor, Inc. is a world leader in Memory and Storage technologies. We are currently looking for Performance Analysis Engineer (Intern) to join our team in San Jose, CA (summer 2019). The Engineer Intern will contribute to memory and storage system research in the Memory Software Lab. He or she will join a team of experts in researching and developing innovative memory and storage system solutions that utilize existing and emerging technologies to add substantial value to storage systems. The ideal candidate must have a strong understanding of storage technologies including file systems, Linux I/O Stack, Linux performance profiling and computer architecture.

Job Responsibilities:

- Analyze behavior of next generation Object Storage Cluster under various application workloads on NVMe over Fabric topology
- Propose possible approaches and to solve complex performance problems related to storage workloads and Fabric Network topology
- Instrument high performance Object Storage Cluster software to collect vital performance data for detailed analysis
- Analyze large sets of collected server telemetry data, create machine learning models to predict expected performance
- Create new and useful IP, publish at conferences, and generate whitepapers.

Required Skills:

- Pursuing a PhD in Computer Science, Computer Engineering or related field, with focus on data modeling and data science.
- Experience with storage performance analysis including file systems, object storage, TCP/IP, high speed networks and Xeon Server platforms.
- Good knowledge of popular Big Data frameworks
- Research and development experience with one or more of Spark, Hadoop, NoSQL Databases, Redis, and Kafka
- Experience with deploying and debugging applications across server clusters
- Prior experience with performance optimization will be a big plus.
- Track record of innovation and creativity in problem solving.
- Must be highly motivated with excellent verbal and written communication skills.
- Strong background in C/C++/Python
- Comfortable working in a multinational environment and understands how to leverage cultural diversity.
- Inherent technical curiosity

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Performance Architect Engineer (Intern)

Samsung Semiconductor, Inc. is a world leader in Memory and Storage technologies. We are currently looking for Performance Analysis Engineer (Intern) to join our team in San Jose, CA (summer 2019). The Engineer Intern will contribute to memory and storage system research in the Memory Software Lab. He or she will join a team of experts in researching and developing innovative memory and storage system solutions that utilize existing and emerging technologies to add substantial value to storage systems. The ideal candidate must have a strong understanding of storage technologies including file systems, Linux I/O Stack, Linux performance profiling and computer architecture.

Job Responsibilities:

- Analyze next generation Object Storage Cluster software performance during device/storage node failures and other types of node operations
- Instrument high performance Object Storage Cluster software to collect vital performance data for detailed analysis
- Based on performance data, innovate new algorithms or methods to reduce overall performance impact during device failures and node operations in the Cluster
- Create new and useful IP, publish at conferences, and generate whitepapers.

Required Skills:

- Pursuing a PhD in Computer Science, Computer Engineering or related field, with focus on data modeling and data science.
- Experience with storage performance analysis including clustered file systems, Linux I/O Stack, Multi-Threading, NVMe over Fabric, and Xeon Server platforms.
- Research and development experience with cluster generated error handling and related theories
- Experience with deploying and debugging applications across server clusters
- Prior research in cluster resiliency, high availability systems and related fields will be a plus.
- Track record of innovation and creativity in problem solving.
- Must be highly motivated with excellent verbal and written communication skills.
- Strong background in C/C++/Python
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GPU Engineer (Intern)

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The System Architecture Lab (SAL) is part of Samsung's Memory Business Unit, the industry's technology and volume leader in DRAM, NAND Flash, SRAM memory. The vision of SAL is to be the engine of technology inspiration and renovation for Samsung semiconductor. Especially, SAL is tackling a variety of challenging issues in data center, server, and software infrastructure. SAL is operated like a start-up under Samsung umbrella. We are looking for most passionate and talented engineers who can share our visions and have a journey together.

We are currently looking for a GPU Engineer (Intern) to join our team in San Jose, CA starting in the summer of 2019. The GPU Engineer Intern will contribute memory and storage system research in the Memory Solutions Lab. He or she will join a team of experts in researching and developing innovative memory and storage system solutions that utilize existing and emerging technologies to add substantial value to storage systems. The ideal candidate must have a strong understanding of computer architecture, storage systems, or DL (Deep Learning).

Job Responsibilities:

- Implement a customized GPU platform.
- Compare the performances in different approaches for heterogeneous computing.
- Analyze performance bottleneck and propose new architecture.
- Work with team members to contribute towards prototyping efforts.
- Create new and useful IP, publish at conferences, and generate whitepapers.

Required Skills:

- Pursuing an MS or PhD in Computer Science, Computer Engineering or related field, with focus on distributed system.
- Good knowledge of CUDA programming.
- Research and development experience with Tensorflow or Caffe.
- Prior experience with performance analysis and optimization will be a big plus.
- Track record of innovation and creativity in problem solving.
- Must be highly motivated with excellent verbal and written communication skills.
- Strong background in C/C++/Java/Scala.
- Comfortable working in a multinational environment and understands how to leverage cultural diversity.
- Inherent technical curiosity

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FPGA Engineer (Intern)

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We are currently looking for a FPGA Engineer (Intern) to join our team in San Jose, CA. The FPGA Intern will contribute memory and storage system research in the Memory Solutions Lab. He or she will join a team of experts in researching and developing innovative memory and storage system solutions that utilize existing and emerging technologies to add substantial value to storage systems. The ideal candidate must have a strong understanding of key-value store, file I/O, and simulation as well as good understanding of computer architecture and storage systems.

Job Responsibilities:

- Implement proof-of-concept of proximity computing
- Compare the performances with different architectural options.
- Analyze performance bottleneck and propose new architecture and storage systems.
- Work with team members to contribute towards prototyping efforts.
- Create new and useful IP, publish at conferences, and generate white papers.

Required Skills:

- Pursuing an MS or PhD in Computer Science, Computer Engineering or related field, with focus on Storage or Computer Architecture.
- Good knowledge of FPGA RLT programming.
- Research and development experience with high-level systems like OS, database, machine learning
- Prior experience with performance analysis and optimization will be a big plus.
- Track record of innovation and creativity in problem solving.
- Must be highly motivated with excellent verbal and written communication skills.
- Understanding of image recognition.
- Strong background in C/C++ programming.
- Comfortable working in a multinational environment and understands how to leverage cultural diversity.
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Compiler Engineer (Intern)

Based in San Jose, California, Samsung Semiconductor, Inc. (SSI) is a multi-billion dollar subsidiary of Samsung Electronics, Ltd. and a world leader in Memory, System LSI and LCD technologies. We provide the widest range of memory, logic, storage devices, LED components and LCD/OLED panels to enhance the user experience in home entertainment, mobile devices, lighting and computing. SSI has advanced R&D labs focused on product design and research in memory, displays, logic, image sensors, and mobile technologies.

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We are currently looking for a Compiler Engineer (Intern) to join our team in San Jose, CA. The System Software Engineer Intern will contribute memory and storage system research in the Memory Solutions Lab. He or she will join a team of experts in researching and developing innovative memory and storage system solutions that utilize existing and emerging technologies to add substantial value to storage systems. The ideal candidate must have a strong understanding of LLVM.

Job Responsibilities:

- Implement a compiler for data-centric platform.
- Analyze performance and find root causes of inefficiency.
- Work with team members to contribute towards prototyping efforts.
- Create new and useful IP, publish at conferences, and generate white papers.

Required Skills:

- Pursuing an MS or PhD in Computer Science, Computer Engineering or related field, with focus on Computer Architecture and Systems.
- Good knowledge of LLVM in general.
- Research and development experience.
- Prior experience with performance analysis and optimization will be a big plus.
- Track record of innovation and creativity in problem solving.
- Must be highly motivated with excellent verbal and written communication skills.
- Strong background in C/C++ programming.
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FPGA Software Engineer (Intern)

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We are currently looking for a Software Engineer (Intern) to join our team in San Jose, CA (summer 2019). The FPGA Intern will contribute memory and storage system research in the Memory Solutions Lab. He or she will join a team of experts in researching and developing innovative memory and storage system solutions that utilize existing and emerging technologies to add substantial value to storage systems.

Job Responsibilities:

- Work hand in hand with core development engineers
- Help evaluate and define future implementations and tools
- Evaluate and test new technologies, components and systems

Required Skills:

- BS/MS (CE, EE, ME, CS equivalent) in process
- Great at technical documentation, data consolidation and presentation
- Willingness to learn quickly while working on new technologies
- Ability to devise creative solutions to unfamiliar problems
- Experience with CUDA programming, Java, Python, C, HTML and JavaScript
- Highly organized
- Excellent attention to detail

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Software Engineer – Storage software (Intern)

Samsung Semiconductor, Inc. is a world leader in Memory, System LSI and LCD technologies. We are currently looking for an exceptional PhD candidate to join our team for an Internship in San Diego, CA for the summer of 2019. The intern will focus on the development of novel applications that make excellent use of the latest storage technologies. This is a hands-on development position that includes rapid prototyping, advanced algorithms, and developing proofs of concept while working closely with senior staff. Interns in our program can expect to learn software development best practices and will come away with skills and knowledge that will help propel their careers forward for years to come.

Job Responsibilities:

- Develop novel intellectual property and/or publications.
- Prepare a novel presentation for our annual Intern Exhibition.
- Work collaboratively with engineers and assist with bi-directional knowledge transfer.
- Learn and apply software engineering best practices.
- Create prototypes and proofs of concept that demonstrate advanced concepts

Required Skills:

- Currently pursuing a Ph.D. in computer science or computer engineering.
- Interns are encouraged and empowered to drive their own development projects.
- Excellent C/C++ skills
- Excellent problem solving skills
- Excellent verbal and written communication skills
- Some expertise in storage technologies (e.g., files and block interfaces, solid state devices, SCSI protocols)
- Ability to work independently

Preferred Skills:

- Some knowledge of software development best practices
- Some general knowledge of object oriented and/or structured design
- Some knowledge of other programming languages and/or paradigms (Python, ML, Prolog, Clisp, Erlang, Logo, etc.)

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Enterprise SSD Firmware Engineer (Intern)

Based in San Jose, California, Samsung Semiconductor, Inc. (SSI) is a multi-billion dollar subsidiary of Samsung Electronics, Ltd. and a world leader in Memory, System LSI and LCD technologies. We provide the widest range of memory, logic, storage devices, LED components and LCD/OLED panels to enhance the user experience in home entertainment, mobile devices, lighting and computing. SSI has advanced R&D labs focused on product design and research in memory, displays, logic, image sensors, and mobile technologies.

We are currently looking for exceptional software talent to join our team in San Jose, CA for the summer of 2019. We are currently looking for firmware/software engineers to join our rapidly growing effort to develop the next generation of enterprise solid-state flash technologies. Our core development focus is the host interface firmware layer that sits at the intersection of system software and flash management firmware. This key host interface firmware technology drives Samsung's breakthrough V-NAND technology and enables our customer to power performance-oriented, demanding enterprise-class applications including hyperscale data centers, big data processing and software-defined virtualized storage arrays and infrastructures.

Job Responsibilities:

- Triage and root cause system, driver and device interoperability issues
- Development of high performance firmware and software for cutting-edge enterprise SSD products
- Debug, optimize & validate/test SSD firmware on embedded multi-core architectures
- Support customer qualification and adoption of SSD products
- Learn operations of cutting-edge SSD, system-level operation and test tool suites
- Write debug software; work with real-time systems and hardware degugging
- Analyze NVMe or SAS protocol & debug utilities; write API for interpretation of data
- Learn simulation environment and develop test cases for actual product development
- Research and document main issues and feature gaps by testing existing products and system configurations
- Gain expertise with SSD test automation environment
- Work with technical lead to present reports to group detailing project work

Required Skills:

- Pursuing a MS or PhD in Computer Science, Computer Engineering or software-focused Electrical Engineering (or BS degree with equivalent experience).
- Knowledge of storage systems and familiarity with flash devices
- Comfortable in lab environment & interacting with teams; good communication skills
- Proficiency with revision control tools and processes, including Subversion, Bazaar, or Git and knowledge of C/C++ development for embedded systems, including storage devices and other embedded platforms is desirable.
- Experience with one or more of the following storage related technologies: NAND Flash/FTL, Fibre Channel, NVM Express (NVMe), SAS, SATA, SCSI, SSD, PCI Express (PCIe), eMMC or UFS is desirable
- Experience with ARM or equivalent embedded multi-core microprocessor architectures & experience with JTAG/ICE debuggers & protocol analyzers is desirable
- Scripting experience in one of Python/Perl/JavaScript is desirable
- Familiarity and experience with modern agile software development methodologies and practices is desirable.

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System Hardware Engineer (Intern)

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We are currently looking for a Hardware Engineering Intern to join our team in San Jose, CA (summer 2019), and work on leveraging the latest FPGA technologies for near-storage acceleration. The intern will collaborate with a team of experts in researching and developing innovative solutions in the Enterprise, Cloud & Data Center environments. The ideal candidate must have a strong understanding of computer architecture and storage systems, as well as how to effectively model the performance trade-offs involved. The candidate should also have previous experience with FPGA design and bring-up.

Job Responsibilities:

- Research applications for near storage acceleration architectures
- Work with FPGA platforms & system software to enable new near storage acceleration applications
- Research architectural trade-offs of server architectures, especially as related to the memory hierarchy and storage systems
- Model and simulate the server system to provide concrete data supporting proposed technologies
- Create new and useful IP, publish at conferences, and generate whitepapers.

Skills:

- M.S. or PhD candidacy in computer science or equivalent
- Experience in system architecture and performance analysis
- Good understanding of computer architecture: server systems, data centers, processors, memory hierarchy, memory subsystems, storage, I/O, networking
- Hardware development experience or relevant courses
- Project or relevant experience in storage and flash technologies
- Direct experience working with FPGA platforms and tools
- Direct experience building and deploying Linux kernel components
- Track record of innovation and creativity in problem solving
- Good problem solving skills
- Passion and deep interest in systems research and systems programming
- Research and development experience with modeling and performance analysis
- Previous experience in FPGA bring-up and hardware design
- Strong background in C/C++ programming
- Excellent collaborative skills, including verbal and written communication
- Must be highly motivated with open mind and willingness to learn from peers
- Ability to work effectively with cross-functional teams and understand how to leverage cultural diversity

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Systems Software Engineer (Intern)

Samsung Semiconductor, Inc. is a world leader in Memory, System LSI and LCD technologies. We are currently looking for exceptional software talent to join our team in San Jose, CA. The Software Engineer Intern will contribute to memory and storage system research in the Memory Solutions Lab. He or she will join a team of experts in researching and developing innovative memory and storage system solutions that utilize existing and emerging technologies to add substantial value to storage systems. The ideal candidate must have a strong understanding of storage technologies including file systems, Linux I/O Stack, Linux performance profiling and computer architecture

Job Responsibilities:

- Work closely with senior staff and managers to define and drive the development of benchmarking tools and generating meaningful benchmark data.
- Leverage existing or design new software to create high performance benchmark tools required for next generation Object Storage Cluster.
- Good knowledge of software development best practices
- Experience with networks and networking best practices will be a plus
- Good understanding of storage technologies (file and block interfaces, caching solutions, solid state devices, and/or enterprise storage solutions)

Required Skills:

- Pursuing an MS or PhD in Computer Science, Computer Engineering or related field, with focus on storage technologies.
- Previous experience in benchmarking complex storage products and software
- Good knowledge of automation tools such as Puppet, Ansible, etc.
- Track record of innovation and creativity in problem solving
- Must be highly motivated with excellent verbal and written communication skills.
- Strong background in C/C++/Python/Java/Scala.
- Comfortable working in a multinational environment and understands how to leverage cultural diversity.
- Inherent technical curiosity

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