



SAMSUNG R&D OPERATING SYSTEMS RESEARCHER

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Technical professionals are defined by what they create. Samsung has the risk taking corporate culture, strategic R&D investments and global know-how to imagine, develop and market products that lead the industry. Samsung's Computer Science Laboratory (CSL), located in the heart of Silicon Valley, San Jose, CA, is currently recruiting world-class researchers who share our "Innovation through Passion" philosophy and thrive in a fast-pace, results-driven environment. Get the best of both worlds - at Samsung's CSL you will have the freedom and creative environment of corporate research support, coupled with the potential to see your inventions and technology translate to real products and real business needs.

Samsung R&D is recruiting full-time researchers in the area of Operating Systems (OS) for future cyber-physical systems. We are looking for individuals with a passion for systems research, and the desire to follow through from concept to pre-transition prototype.

Position: Full-time Researcher for the Omni-OS Project

Summary:

The Systems Research Group is developing new OS designs that can meet the needs of future computing platforms based on multicore, manycore and cloud technologies. We are currently developing a solution based on L4 microkernel technology that will readily scale from sensors-to-servers, whilst providing advanced support for transparent distributed processing, Quality-of-Service (QoS) guarantees for co-located real-time and best-effort applications, and the "first-class" integration of parallel programming technologies.

We are looking for highly motivated and creative individuals to join the San Jose research team and to augment existing system research expertise. This is an excellent opportunity to join a new team advancing state-of-the-art software technologies for Samsung's current and future business.

Duties and Responsibilities:

- Research and develop micro-kernel based solutions for next generation products.
- Research and develop innovative technologies to directly address scalability limitations of existing solutions.
- Research and develop ideas around the single-system image concept.
- Research and develop new ideas in OS-level and language-level support for heterogeneous processor platforms.
- Develop ideas around the support of fine-grained resource management and QoS monitoring, policing and adaptation in the context of real-time cyber-physical applications.
- Build proof-of-concept prototypes.
- Write research papers and technical articles publishing work and results in top-tier conferences and journals.

Necessary Skills/Attributes:

- Ph.D. in Computer Science or related area with 0-5 years practical experience.
- A track record in OS research pertaining to the above areas of interest with high-quality publications in the field.
- Hands-on experience with low-level systems prototyping and development.
- Proficiency with C/C++ and Linux-based development including multi-threaded programming.
- Excellent communication and team working skills are required with a willingness to work with an international team to deliver an integrated solution.
- A willingness to learn new things and take on new challenges.

Desirable Skills/Attributes:

- Experience with L4 or other similar microkernel technology (e.g., QNX, Integrity)
- Experience with embedded systems development.
- Experience building OS sub-systems such as memory managers, and task schedulers.
- Experience with implementation of machine-learning algorithms (e.g., GA, simulated annealing, differential evolution) that drive system optimizations.
- Experience with distributed and parallel computing.
- Experience developing on TILE processors and programming with TILE assembly.
- Experience developing on ARM processors and programming with ARM assembly.

Contact:

Please send resumes and enquiries to Brian Gilmore (b.gilmore@sisa.samsung.com).