Internship offer – Development and test of Linux kernel drivers

Founded in 2003, InvenSense Inc., a TDK Group Company, is the world's leading provider of MEMS sensor platforms. InvenSense's vision of Sensing Everything™ targets the consumer electronics and industrial markets with integrated Motion and Sound solutions. Our solutions combine MEMS (micro electrical mechanical systems) sensors, such as accelerometers, gyroscopes, compasses, and microphones with proprietary algorithms and firmware that intelligently process, synthesize, and calibrate the output of sensors, maximizing performance and accuracy. InvenSense's motion tracking, audio and location platforms, and services can be found in many of the world's largest and most iconic brands including smartphones, tablets, wearables, drones, gaming devices, internet of things, automotive products, and remote controls for smart TVs.

InvenSense is headquartered in San Jose, CA and has offices in Boston, China, Taiwan, Korea, Japan, France, Canada, Slovakia, and Italy. We're looking for top-notch students to join our global intern team. If you're interested in being a part of our journey and helping us grow to become the leading provider of SoC platform solutions, we definitely want to hear from you.

We are looking for motivated students to join our 2020 Summer Intern Program! Our intern program includes real work assignments, Intern Appreciation Day (interacting with CEO and VPs), Networking Lunch with hiring managers, technical talks, New Hire Panel with recent grads, play with technology, off-site fun events, and more!

Overview/Job Summary

- Setup of a development and build environment with automatic build of delivery packages.
- Command-Line applications for testing and generating data logs
- Development on existing Linux kernel drivers and upstream work to the official Linux tree
- Write a new Linux kernel driver for currently unsupported chips

Job Description

- **Under responsibilities of InvenSense France team**, the candidate will work on InvenSense Linux platforms and drivers for our main motion chips.
- **Evaluation and choice of boards and OS**
- **Setup of development and build environments**
- **Development of test and logs tools for the Linux platform**
- **Learning of Linux kernel development process**

TDK – InvenSense
MEMS Sensor Business Group
Sensor System Business Group
22 Avenue du Doyen Louis Weil
38000 GRENOBLE
+33 438 211 931
www.invensense.com

- **Add new missing features to existing drivers** (inv_mpu6050, inv_icm42600, icp10100), this includes Wake-on-Motion support, FIFO watermark, extra features like pedometer, …
- **Add a new driver for the ICM-20648/20948 chips family**, support of raw data reading by polling and buffer with interrupt, 9-axis magnetometer, Wake-on-Motion, and extra features of the DMP (Android features set).

Qualifications

- **Familiar with Linux development environment:** Ubuntu, gcc, make, git
- **Languages:** C, C++14
- **UNIX/Linux application :** POSIX C API, C++ STL
- **Build:** Makefile
- **Version control system:** git, GitHub
- **English spoken and written is mandatory**
- **Following experiences are a plus:** Yocto/OpenEmbedded, Debian, driver/kernel, CMake, Jenkins

Thank you to send your curriculum vitae via email and cover letter to jmaneyrol@invensense.com
• Stage Chief: Jean-Baptiste MANEYROL

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