

# Sensor Characterization & Calibration Engineer

## Job Description

Apple designs consumer electronics that have touched millions and changed the way people interact with electronic devices around the world.

The Hardware Test Engineering Group is looking for an engineer responsible for characterizing sensors (optical sensors) and defining calibration, instrumentation and testing of these sensors. This engineer works closely with the Sensing Hardware group to ensure the success of current and future Apple products.

## Job Responsibilities

Specification, development and deployment of sensor calibration and performance verification stations for use during Apple new product introduction (NPI). Our systems have to perform at a high level of accuracy in non-ideal factory NPI conditions.

Responsibilities include:

- \* Define sensor calibration and test requirements, identify what matters to customers
- \* Research and development around metrology of optical sensors
- \* Define test limits based on system specs
- \* Come up with new and optimized ways of calibrating and verifying sensor performance of Apple products
- \* Architect and validate the required fixture for measuring and calibrating devices
- \* Acquire equipment, components and tools for use in a NPI environment
- \* Deploy calibration and performance verification stations throughout the NPI cycle
- \* Interact with and drive equipment vendors to design the perfect equipment from scratch for calibrating and verifying the performance of Apple products
- \* Generate reports that analyze large amounts of NPI sensor performance data
- \* Debug devices from the system level down to the component level
- \* Analyze trade-offs among performance, manufacturability and schedule

## Required Experience

- \* MS in EE/Physics/Optics
- \* 3+ years of professional experience
- \* Knowledge of optical sensor functionality and implementation
- \* Experience in design / implementation of laboratory instrumentation for the validation / characterization of optical sensors
- \* Excellent written and verbal communication skills and solid teamwork and leadership skills

## Preferred Skills

- \* PhD in EE/Physics/Optics
- \* 5+ years of professional experience
- \* Understand limitations and design trade-offs between sensor performance, manufacturability, spec, applications and non-ideality of the sensor

- \* Experience with fabrication and assembly of optical sensors
- \* Experience with commercialized optical sensors, sensor testing and calibration
- \* Experience with simulation, modeling and statistical tools like MATLAB, JMP
- \* Experience with plotting, processing and mining data in  
Matlab/Perl/Ruby/Python
- \* Hands-on experience in system-level design
- \* High volume consumer electronics manufacturing experience
- \* Experience with hardware automation

### **Estimated Travel**

Up to 25% international travel