

# Embedded SW Engineer

## Job Offer

### The Company

3Brain AG is a Swiss deep tech company working on cell-electronic interfaces that link biological networks to computers via custom-made semiconductor microchips. Our mission is to empower life scientists to probe intelligent networks, accelerate biomedical discoveries for the benefit of patients, and create a future more exciting than the present. Our interdisciplinary team of scientists and engineers are constantly pushing the boundaries of engineering for life's complexities. We are ambitious, fast-growing and love to explore. The company is headquartered in Switzerland nearby Zurich, has a R&D office in Genova, Italy, and has installed its cutting-edge products in laboratories and pharma companies worldwide.

More info: <http://www.3brain.com/about.html>.

### Job description

For the next expansion step, 3Brain is looking for a full-time embedded SW engineer to reinforce our R&D team. You will help develop new embedded systems for high-speed data acquisition devices and improve and maintain the existing product line. You will design low-level firmware architectures for the new products and develop drivers to communicate with our hardware (i.e. electronics and FPGA IP cores). Furthermore, you will work in the communication protocols between the developed products and the computer applications controlling them. Low latency is required in these protocols; therefore, a good understanding of embedded code optimization is required.

In particular, your tasks involve:

- Creating embedded SW systems and architectures in Linux-based and bare metal environments.
- Design and implement the SW infrastructure for embedded device handling, including control of peripheral devices through SPI, I2C, UART, etc.
- Development of low latency API to communicate with the embedded system.
- Driver design for FPGA-based hardware accelerators (C/C++).



- Implementation of automatic tests to validate HW/FW.
- Measurement of embedded system performance and optimization.
- Maintenance and refactoring of the existing embedded code base.

## Required Qualifications

- BSc/MSc in Electrical Engineering or hardware-oriented Computer Science.
- Minimum of 2 years of professional experience in embedded software development: C and C++.
- Knowledge of Google Test or similar unit testing library.
- Strong commitment to high coding and design/architecture standards and best practices.
- Good knowledge of the Linux operating system.
- Basic understanding of electronics.
- Fluency in English.
- Initiative and independence.

## Additional Qualifications

- Experience in Device Tree and Linux kernel driver development.
- Knowledge of a toolchain to compile embedded Linux (Buildroot or Yocto) and U-Boot.
- Proficiency in Python programming.
- FPGA design in VHDL.
- Background in signal processing.

## What We Offer

- A dynamic and stimulating work environment driven by a desire to build transformational technologies to help others.
- A young, fast-growing company with plenty of opportunities for personal growth and development.
- Great challenges and adventures in both technical and economical fields.
- Working place: **Pfäffikon SZ, Switzerland**. It is a beautiful lakeside village just outside of Zurich, the country's main cultural, financial and business center.

To apply send your CV (English only) to [hr@3brain.com](mailto:hr@3brain.com), subject: [Embedded SW Engineer](#).

