



# Top Student for Hardware and Software Development on a Magnetic Microrobotics System

## Internship or Limited-term Development Project

Like to code? Keen to apply your knowledge in exciting engineering and scientific applications? We have the right project for you in cutting-edge microrobotics!

**MagnebotiX AG** is a young spin-off of the ETH Zurich producing magnetic field generators and magnetic micro-agents. We are based in Zurich but are developing a worldwide market. Our patented products are used in micro- and nano-engineering, biological research and medicine.

We are looking for a talented student (Bachelors, Masters) with a background in computer science, electrical engineering or mechatronics with versatile coding skills including C++, python and Matlab. Your goal is to enable users to work with our unique magnetic field generator in an intuitive fashion. Your knowledge of engineering principles will enable you to design and experimentally test both control algorithms and enhanced hardware for the magnetic control of microrobots. Collaboration with our small group of dedicated engineers and scientists, as well as our customers, will stimulate your creative powers to solve intriguing problems.

Projects will normally be carried out on a full-time basis and last 6 - 12 months.

### Tasks

- Test and streamline our present C++ based software
- Develop and implement new control software in C++ and/or Matlab
- Design, produce and integrate new field enhancement hardware into our systems
- Provide complete documentation and a detailed user manual

### Experience and capabilities wanted

- Experience with different software development environments, programming tools (Qt, Matlab, Python, ROS, C#, or C++), simulation techniques and CAD software
- Acquaintance with system controller applications and communications protocols
- Flair for time-optimized execution
- Good understanding of electromagnetism
- Good knowledge of both spoken and written English

### Personal Attributes

- Ability to interact constructively with other team members and customers
- Have a keen desire to produce high quality code
- Be highly proactive and able to execute tasks independently and efficiently
- Be enthusiastic about finding innovative solutions to unforeseen challenges

### Start of project – as soon as possible

If this challenging project appeals to you please submit your full application (CV, motivation letter, two references) by email to: Dr. David F. Sargent, [david.sargent@magnebotix.com](mailto:david.sargent@magnebotix.com)



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A touch of **MAGIC** - *Magnetic Actuation Gives Incredible Control*