R&D Software Engineer (m/f/d)

At our headquarters in Böblingen, close to Stuttgart, Germany, a highly motivated R&D team develops advanced new technologies and enables innovations for leading-edge semiconductor test applications. While data communication at more than 10 Gbps is just starting to become widespread, we at BitifEye are already working on solutions for testing upcoming digital interface standards generations.

We are searching an additional member for our R&D team. The position will be located in Böblingen, partial work from home is possible. We are looking for your experience and passion to maintain our growth path. Concretely, the R&D software engineer shall contribute to our innovation process and to dedicated R&D projects. E.g. for new products and services for testing digital multi-gigabit interfaces for high-speed data communication, such as PCIe, USB, HDMI and automotive or data center applications.

Our test and measurement products complement the premium, high-speed electrical test instruments, e.g. oscilloscopes and data generators, of our global partner Keysight Technologies. Our combined, automated chip test systems allow in-depth product testing and characterization, which is a key step for evaluating and debugging next-generation electronic products. With your expertise and dedication, you will maintain close relationship with global technology leaders and help them to validate their new products with amazing new capabilities way before they hit the market.

We currently focus on testing datacom receivers at the physical (PHY) layer, which is implemented at the chip level. Signal impairments such as jitter, noise, channel loss and inter-symbol interference (ISI) have a strong impact on the performance of such receivers. Our test software is helping customers to create new, exciting products and to enter new markets by analyzing the effect of these impairments and checking the compliance of their products.

Tasks:

- Participate in simulation and modelling of high-speed serial communications in Matlab and C#
- Integrate AI and ML components in C#
- Develop and implement digital signal processing algorithms
- Generate scientific project reports in German

- Participation in the continuous innovation process, e.g. identification of new applications and new fields of activity
- Help to lay the ground for new software and hardware technologies and new algorithms for test & measurement and control systems, both theoretically and practically, e.g. by building prototypes
- Tight cross-functional cooperation, e.g. with the scientist team and marketing/sales
- Contribution to the development and maintenance of the technology roadmap
- Relationship building and close collaboration with international research and development partners as well as with alpha customers
- Contribution to selected industry standards committees

Requirements:

- B. Sc. (preferably M. Sc., subject to experience) in computer science, software development, mathematics, physics or electronics
- Open minded
- Good knowledge of C#
- Experience with high-speed serial data communication, such as PCIe, IEEE 802.3ck, OIF-CEI
- Basic knowledge of electronics
- MATLAB programming skills
- Basic understanding of digital signal processing
- Analytical skills, algorithmic thinking
- Problem solving attitude
- Min. 2 years of experience as software developer
- English (fluent), German (reading and writing skills)

Nice to have:

- Understanding of machine learning, specifically reinforcement learning and deep learning
- Practical experience with test instruments such as oscilloscopes or network analyzers
- Python programming skills