Application for the Software Engineer Position

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Dear MX3D Hiring team,

I am excited to apply for the Software Engineer position at MX3D. Ideally I want to work in a robotics startup using the state-of-the-art technology to work towards a clear mission statement to effect positive societal change. MX3D fits this image extremely well, so you can imagine how thrilled I was when I found out you currently have open positions! The work done at MX3D on robotics WAAM allows innovative and complex new shapes in metal manufacturing and is not just quicker, cheaper and less wasteful, but also just very cool! The promise of a fast paced environment and collaboration with a team of experts only further increases my excitement for this position.

I love working on problems that cross disciplines as demonstrated by my varied academic, professional, and personal experiences. MX3D's vision of using robots for large scale robotic WAAM produce similar challenges to the work I have done during my masters thesis where I worked on controlling a heterogeneous fleet of generic multirotor UAVs using Nonlinear Model Predictive Control to cooperatively estimate the state of a target object using a Kalman filter and steer the fleet into optimal target-sensing trajectories. Within 6 months I was able to dive into and advance this state-of-the-art control theory, collaborate with others to turn ideas into the movement of real physical systems and present my findings to a varied audience. This experience in advanced control theory, state estimation and path planning will be useful when developing the control and path planning algorithms for MX3D.

In my professional career, I have developed modern C++17 firmware and hardware for Cortex-M4 microcontrollers at Nefit Bosch, building minimally complex solutions for sensor integration and communication stacks. I guaranteed maintainability and reproducibility through automated unit & integration tests on a CI/CD pipeline. At Teqram, I designed and maintained C++/Lua software for an ABB IRB 7600 industrial robot arm, integrating structured light cameras and magnetic grippers for automated metal part handling. These experiences have given me a strong foundation in robotics, hardware-software integration and modern software development techniques, which are critical to work on MX3D's slicing and print control problems.

My continuous desire to learn drives personal projects, such as exploring Async Embedded Rust, using Nix for reproducible tooling, and designing a custom split keyboard with a PCB and firmware integration. These projects demonstrate my internal motivation to learn about hardware-software integration and modern development tools. I am genuinely excited about innovative technologies and would love to share this excitement with the obviously like-minded people at MX3D.

As I'm currently abroad, I'm looking for a position when I relocate back to Enschede around March 2025. My timezone for January is NZDT (GMT+13), and AWST (GMT+8) during February. I hope it is possible to conduct any interviews digitally until I return to the Netherlands.

I sincerely hope you will consider me for this position, I would love to be part of your amazing mission and believe I can contribute meaningfully!

Sincerely,

Max Kivits