

Hans T. Gaensbauer

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An ambitious and hard-working electrical engineer with experience in embedded and RF electronics design and manufacturing. Skills include PCB design, hardware programming, and DFM. Research experience includes work with MRI and NMR instrumentation.

Education

Massachusetts Institute of Technology, Electrical Engineering **Cambridge, MA** **9/2022 - Present**

Degree: SM 2024, PhD in progress

- GPA: 5.0/5.0

University of Washington, Electrical Engineering **Seattle, WA** **9/2019 - 6/2021**

Degree: BS, 6/2021

Focus: Embedded Systems

- GPA: 3.88/4.00

Experience

MIT, Research Assistant **Cambridge, MA** **9/2022 - Present**

- Currently working to develop new magnetic resonance instrumentation for rapid diagnostics and cell manufacturing.

Gridware, Electrical Hardware Engineer **Walnut Creek, CA** **6/2021 - 5/2022**

- Designed, built, and tested Gridware's hardware, from the devices they sell to the lab equipment we used to evaluate them.

UW Networks and Mobile Systems Lab, Intern **Seattle, WA** **6/2020 - 2/2021**

- Designed low-weight solar panel charging circuits for deployable sensors, allowing the sensors to turn on and transmit data whenever there was enough stored energy.

UW Husky Satellite Lab, Electronics Lead **Seattle, WA** **9/2019 - 1/2021**

- Designed, built, and tested a prototype radar payload, plasma thruster electronics, power distribution boards, sensor modules, and momentum control systems.

UW Chavarría Gordienko Lab (DAMIC at UW), Research Assistant **Seattle, WA** **9/2019 - 9/2020**

- Built a 200V zero static power ramp generator for biasing dark matter detector CCDs, eliminating the need for a \$10,000 function generator/power supply.

Mindcraft Makerspace, Teacher **Denver, CO** **5/2017 - 8/2019**

- Planned and taught 3D printing and electronics classes and summer camps
- Built and fixed equipment for the makerspace.

Select Projects

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Publications

- Hans Gaensbauer, Do Hyun Park, Alexander Bevacqua, Jongyoon Han, "Contact Free On-Line Monitoring of Bioreactor Cell Cultures with Magnetic Resonance Relaxometry," Analytical Chemistry, DOI: 10.1021/acs.analchem.4c04042 (2024)
- Gaensbauer, H. Continuous In-Line Monitoring of Perfusion Culture Viability with Contact-Free Magnetic Resonance Relaxometry. <https://archive.ismrm.org/2024/1422.html>.
- Vikram Iyer, Hans Gaensbauer, Thomas Daniel, and Shyamnath Gollakota. Wind dispersal of battery-free wireless devices. Nature, 2022