# Eirik Rolland Enger

**PhD candidate**

PhD candidate at the complex systems modelling group at the Department of Physics and Technology, University of Tromsø. Fond of abstract ideas, free open-source software and skiing.

## Education

2020–2024 (expected)

*PhD, Climate Physics at the University of Tromsø* (Tromsø, Norway)

*Thesis title: Deep Learning Approaches to the Self-Awesomeness Estimation Problem*

2015–2020

*MS in Space Physics at the University of Tromsø* (Tromsø, Norway)

*Thesis title: A model for IS spectra for magnetized plasma with arbitrary isotropic velocity distributions.* Link: <https://hdl.handle.net/10037/19542>

## Experience

2018–Now

*Teacing Assistant at University of Tromsø* (Tromsø, Norway).

* FYS-2000 Quantum Mechanics (S18)
* FYS-0100 Basic Physics (F18,F19)
* FYS-2009 Sun, planets and space (F20,F21)
* FYS-3002 Techniques for investigating the near-earth space environment (S21)

2019 (2 months)

*Summer student at FFI — Norwegian Defence Research Establishment* (Kjeller, Norway).

During eight weeks in the summer of 2019 I worked at the FFI, continuing the project on software defined radios from 2018. The goal this summer was to be able to do real time spoofing of a GNSS (Global Navigation Satellite System) receiver, meaning it should be possible for the spoofer to make adjustments to the path the fake signal gives, in real time. Multiple open-source projects was used, some of which I modified or wrote myself during the project. The added code was written in Python, and the complete project can by found in my [bladeGPS-Game repository](https://github.com/engeir/bladeGPS-Game). The project ended in a successful demonstration of real-time controlling of a spoofing signal.

2018 (3 months)

*Summer student at FFI — Norwegian Defence Research Establishment* (Kjeller, Norway).

During nine weeks in the summer of 2018 I worked at the FFI on a project about software defined radios for use with jamming and spoofing of GNSS receivers. Open-source projects was used along with a number of different hardware, most notably the [USRP](https://www.ettus.com/all-products/ub210-kit/). At the end of the period, spoofing of both GNSS receivers and a phone was demonstrated, and a report documenting the project was written.

## Technical Experience

Website

I have a website called [flottflyt.com](https://flottflyt.com) where I put up projects I work in my spare time, as well as any other content I find interesting. For example I have my own NFT storefront on the website that uses the [metaplex](https://www.metaplex.com/) protocol on the [Solana](https://solana.com/) blockchain.

Open Source

I maintain the project [**ncdump-rich**](https://ncdump-rich.readthedocs.io/) which is published on [PyPI](https://pypi.org/). This is a previewer for quickly showing formatted metadata in .nc files, written in python. I also contributed to [**stpv**](https://github.com/Naheel-Azawy/stpv) which is a general previewing tool to be used within the terminal.

Programming Languages

**python:** Have been programming in python for four years with increasing intensity, creating multiple projects over the years. See my [github](https://github.com/engeir) for a closer look at the different repositories.

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