

The RF Manifesto

About Me

My name is Connor Paine and I am deeply fascinated by the topic of radio frequency. I hold a Bachelors of Science in Electrical Engineering from Western New England University with a specialization in Radio Frequency. Honestly, I wasn't a good student in school. I barely scraped by, but RF drove me to finish my degree (begrudgingly). Quite honestly, it's the only subject in electrical engineering I resonated with and cared about. I struggled, I found something I loved, and I want to make that path easier for the next person.

In my career, I've worn a couple of hats. I spent seven years manufacturing printed circuit boards for aerospace and defense applications, built RF test systems for radar assemblies, and am now designing printed circuit boards for research and development purposes. I love what I do, but I'm most passionate about bridging the gap of academic rigor and easy-to-read material on the subject of radio frequency. This passion drove me to write my first book, *Understanding RF: From Theory to Practice*. What started out as a passion project of mine turned into a reference for people all over the world in 52 different countries. It's truly an honor, but there's still a problem that hasn't yet been addressed.

The Problem

I've got a serious problem with the RF community. Not the topic itself or the people, but the paywalls, the licenses for software, the academic institutions, and the intellectual barrier to entry. You want to reliably learn about RF in depth? You need to get a degree. You want to run electromagnetic simulations? You need a paid license. You want to understand the topic on a deeper level without getting lost in the smarter-than-thou speak? You need to choose between research papers or surface-level Youtube videos. You want data acquisition and analysis programs for measurements? You either need to pay or build the software yourself from the ground up. Lots of people are turned away from these tradeoffs

To preface, neither one of these things is necessarily "bad". People need to make a living, academic institutions need students, some people perform research and need to go in-depth, and sometimes you need a quick five minute video breaking down the subject. People are different and all of them serve a different, genuinely meaningful purpose.

The *sum* of all these is a problem. Let's call a spade a spade. The field of RF is intellectually and financially guarded. There isn't one, central place where you can access reliable and free information and software without searching yourself, getting a degree, or creating tools you don't have the time to create.

The Mission

My mission is to create a place where those interested in radio frequency can find free software from EM modelling to data acquisition and analysis. My mission is to create a place where you can find free resources that bridge academic rigor and intuition. My mission is to shine a light towards free academic research papers. You don't need a degree or a fat wallet to understand radio frequency. The field deserves a place you can go to learn and use tools without feeling exploited. I don't take paid advertisements, charge for my services, or even point towards a "donate" button. Anything that *does* cost money involves global distribution of physical material (like my first book), but I try to make everything as free as I possibly can.

This is the mission of Understanding RF.