

Degrees and Certifications

[Eric Solano, Ph.D.](#)

I obtained an undergrad degree in Civil Engineering in 1991 with emphasis in solving problems using data driven solutions including GIS and operations research. I then worked as a junior instructor for two years before registering for [grad school](#). My research during grad school consisted of the application of mathematical optimization tools to solve problems related to environmental systems, e.g. water pollution and waste management. My [master's](#) and [doctoral](#) theses used complex optimization models and environmental scientific frameworks to analyze big data from multiple sources: national waste quantities and locations; life cycle inventories of greenhouse gas emissions, energy production and consumption and costs of all activities associated with waste management. This research resulted in the production of software adopted officially by the U.S. Environmental Protection Agency for policy making in waste management and in the [publication](#) of [scientific papers](#) in peer reviewed journals. I obtained my Master of Science degree in 1996 and my Ph.D. in 1999 at [North Carolina State University](#). The program was a novelty at the time in that it was a collaboration between the Engineering, Computer Science and Operations Research schools. The emphasis was on the use of large amounts of national data and complex mathematical models to solve real environmental engineering problems.

While working at [RTI International](#), a research institute, I continued expanding on my knowledge in mathematical modeling, operations research, relational databases and programming languages. Every project had an analytical component and a programming requirement. I received [training](#) from the ORACLE University on the [ORACLE Application Server](#), from the [Mathworks](#) in [Real Time Analysis](#), [Algorithm Modeling with Simulink](#) and [Advanced Programming Techniques](#). I received training in [IT Project Management](#) from the Research Institute.

Since my work was mostly related (although not exclusively) to environmental engineering systems analysis, I decided to become a Licensed Professional Engineer (PE). This step earned the trust of my clients and customers and showed my employer my ability to take on a higher level of responsibility. To become a licensed [Professional Engineer](#), I had to pass the Fundamentals of Engineering (FE) exam, complete four years of progressive engineering experience under a PE and finally pass the Principles and Practice of Engineering (PE) exam. This long process ended in 2008 with my certification as a Professional Engineer by the North Carolina Board of Examiners for Engineers and Surveyors.

In 2009, I started exploring High Performance Computing and the use of Super-Computer clusters way before the emergence of Cloud Computing and GPUs, and I received training in [High-Performance Computing](#) for Computational Science Professionals collaborating with Biologists, at the National Institute for Mathematical and Biological Synthesis ([NIMBioS](#)), at the University of Tennessee, Knoxville.

In 2011, I added a new certification on top of my Professional Engineer license. I fulfilled all the requirements from the American Academy of Water Resources Engineers to become a [Diplomate Water Resources Engineer](#).

In 2016 I completed the [Data Science Specialization](#) from Johns Hopkins University after more than 10 years of using R for machine learning problems.

In 2018 I trained in Hadoop and the Hortonworks Data Platform (now IBM).

While working at Continental, my focus has been more on projects related to telematics data and in 2019 I added training in both the [Arduino](#) and [Raspberry Pi](#) platforms.

In 2019 I completed the [Deep Learning Specialization](#) from DeepLearning.AI.

Additional training since 2019 include the Apache Spark Summit in San Francisco in 2019. TensorFlow in 2021, [Valohai Platform](#) in 2022, AWS CDK in 2022, [Pergola Platform](#) in 2022, Apache Airflow in 2023, and the [KNIME](#) platform in 2023, all these at [Continental](#).