DS 760
Open Source Software Movement

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Linux was started by Linus Torvalds while a student at Helsinki University in early 1991. By August, he solicited and began receiving feedback concerning the kernel. The software was moved to the university's server, ftp.funnet.fi, under the project directory 'Linux'. In December 1992, Torvalds updated the license to GNU GPL so that Linux and GNU developers could integrate GNU components with Linux to make a fully functional and free operating system.

Data science has benefited considerably from the open source licenses including BSD, CDDL, Eclipse, GPL, GNU, Apache an MIT. My favorite data science tools, Python and supporting libraries, Hadoop/Hive, TensorFlow, Seaborn, Jupyter, and MySQL, are all open source.   Having 66 repositories on GitHub, one could say that I believe in this model's ability to add value to society. It is capable, efficient, and promotes a strong sense of community.

I guess to best explain the behavior or 'algorithm' behind open source; you have to approach it from a philosophical perspective. How one spends their time is always a choice. The process starts with someone wanting to solve a problem. They first evaluate their options, resources, and barriers to meeting it. They find something that meets some or most of their needs, and with a little more effort, they can entirely get there. They figure out the changes needed by exploring and tinkering; they search through detailed information sources, they engage others with questions and continue iterating down a path. Once one completes this cycle and solves their initial problem (and after some time), they realize they stood on the shoulders of giants to get there. Humbly, the set their work free.

Over time contributions, if useful enough, have an exciting effect due to the low barriers to entry. People come and go, but the projects live on; maintained by those pursuing the same 'algorithm.' They reflect on their values that their time is valuable and their solution worthy of consideration by others.

There are many examples visualizing this effect in action. (Please see [Open Source Project, Example Visualization](#)).