spencer tipping   505.730.8034 // spencer.tipping@gmail.com

github **open source**   2009 - present

A mixture of applied projects and independent research, often compilers and data processing tools. More recently I've focused on electrical and mechanical engineering to start a robotics company.

computer science	ni: fast data processing + visualization	spencertipping.com/ni
	phi: FORTH+Smalltalk+Lisp in machine code	spencertipping.com/phi
	Caterwaul: a Javascript recompiler	spencertipping.com/caterwaul
	An improved cd command for bash	spencertipping.com/cd
	Lisp in bash	spencertipping.com/blambda
research	GPS multipath error + satellite tracking	spencertipping.com/gps
	Audio spectral visualization	spencertipping.com/niaudio
	3D sonar trilateration for cell phones	spencertipping.com/sonar
classes/tutorials	How to write a UNIX shell	spencertipping.com/shellhowto
	How to write a JIT compiler	spencertipping.com/jithowto
	Javascript in Ten Minutes	spencertipping.com/js10
	Information theory in Ten Minutes	spencertipping.com/it10

factual.com **Factual** :: data scientist   2012/Aug - 2018/May

Initially hired as a software engineer, but ended up taking on ad-hoc data science work and developing the role. Although remote, I worked cross-functionally on product management, business strategy, and hiring. Started Factual's mentorship program. Colleagues described me as "unblockable" and "a force of nature."

computer science	Data pipeline performance	spencertipping.com/pipeline
	Fast bitwise geohash encoding	spencertipping.com/geohash
	Fast indirect sorting in Java	spencertipping.com/javasort
	nfu: fast medium-data processing	spencertipping.com/nfu
data science	Fourier transform for geodata forensics	spencertipping.com/fraud1
	Statistical fraud detection	spencertipping.com/fraud2
	Polygon compression	spencertipping.com/polycomp
global places	Ontological bias + correction for categories	dev+research lead
	Fast entropy-based entity resolution	dev+research lead
geopulse	Core processing pipeline (Hadoop + Clojure)	dev+design lead
	Automatic fraud detection + blacklisting	dev+research lead
	Insights processing pipeline (Hadoop + ni)	product+dev owner
	Cryptographically secure differential privacy	product+dev owner
	Behavioral model validation + analysis	research lead
engine (mobile)	Wavelet-based accelerometer parsing	research+prototyping lead
	Place attachment QA + training data	research lead

google.com **Google** :: software engineer   2011/Nov - 2012/Apr
Google Groups developer focused on accessibility.
Gave a tech talk on V8 compiler performance: spencertipping.com/v8perf.

(acquired) **Social Media Networks** :: lead software engineer   2010/Jan - 2011/Nov
Lead client-side developer and project owner for the visual ad editor: spencertipping.com/vedit.

(inactive) **Border Stylo** :: lead software engineer   2009/Jan - 2009/Sep
Lead frontend engineer, co-inventor of the content anchoring patent: spencertipping.com/capatent.

truman.edu **Truman State University** :: math+CS   2005-2009, dropped out, 3.94/4 GPA
| mathematical modeling | MathBio: evolutionary drift | spencertipping.com/2008nsf |
| | MAA competition: airplane boarding | spencertipping.com/2007mcm |