JOEL GRUS

joelgrus@gmail.com
twitter.com/joelgrus
github.com/joelgrus

Technical leader, software engineer, data scientist, contrarian, best-selling author, popular conference speaker, podcast host, stand-up comic, livecoder, angel investor, and strong generalist. Enthusiastic about well-designed software, readability, clean code, mentoring and learning, extracting value from data, AI / ML / NLP, and functional programming.

BOOKS

Ten Essays on Fizz Buzz **(LeanPub, 2020)**
Data Science from Scratch: First Principles with Python **(O'Reilly Media, 2nd ed. 2019)**
Thinking Spreadsheet **(self-published, 2010)**

OPEN SOURCE CONTRIBUTIONS

allenai/allennlp: core engineer for PyTorch-based deep-learning library for NLP research
clab/dynet: created Scala bindings for C++ dynamic neural net library developed at CMU

WORK EXPERIENCE

CAPITAL GROUP | Seattle, WA | 2019 - present
Principal Software Engineer, Machine Learning
I lead the design and implementation of machine learning systems within the investment group. Projects include `cgmaker`, an internal library that abstracts away the details of SageMaker; NLP models for automated tagging of research documents; and programmatic generation of human-readable explanations for mutual fund performance attribution. I also manage people and spend a lot of time in meetings.

ALLEN INSTITUTE FOR ARTIFICIAL INTELLIGENCE | Seattle, WA | 2016 - 2019
Senior Research Engineer
Research and engineering on the AllenNLP library. I did some of everything: library design, product strategy, code refactoring, adding features, devops, implementing and training models, building React demos, pairing with researchers, mentoring, writing tutorials, supporting users, giving talks, fixing bugs, and all the rest.

Previously I worked on the Aristo project, teaching computers to answer science questions. Responsibilities spanned pure engineering tasks (building data pipelines, implementing RPC frameworks), pure research tasks (designing and building topic-specific question solvers, generating large numbers of science questions), and everything in between (e.g. creating Java wrappers and a Scala API for a C++ neural net library).

GOOGLE | Seattle, WA | 2014 - 2015
Software Engineer
Tech lead on Supply Chain Planning team. Responsible for technical design and implementation of backend services, gathering requirements, coordinating developers, writing code, and relationships with business users. Previously backend engineer on Display Ads; designed and built data-driven features for a greenfield ads benchmarking tool.

VOLOMETRIX | Seattle, WA | 2011 - 2014
Chief Scientist and Head of Analytics
Employee #2 at enterprise SaaS startup. Created prototype for in-memory analytical engine, designed and implemented most of the analytics in the product, and participated in every other aspect of growing the company from 3 people to 15 people. Responsibilities split roughly evenly among data science R&D, writing production code, and managing people. (Company acquired by Microsoft in 2015.)

DECIDE | Seattle, WA | 2010 - 2011
Analyst
Wrote code, built models, and designed processes to collect, analyze, and predict data for consumer electronics startup. (Company acquired by eBay in 2013.)

FARECAST / MICROSOFT | Seattle, WA | 2006 - 2010
Senior Analyst / "Fareologist" / Software Developer
Mined travel data for “fareology” insights, wrote code and built dashboards to track business metrics and customer activity, simulated revenue impact of changes to analytic products, designed algorithms to identify “deals”. (Company acquired by Microsoft in 2008.)

TAHOMA CAPITAL | Bellevue, WA | 2006
Senior Analyst
Handled day-to-day operations of FX portfolio at hedge fund; modeled value and risk of proposed trades.

REPRESENTATIVE TALKS

- **Managing Junior Data Scientists in the Time of Coronavirus** IBM Learn AI 2020
- Muppets and Transformers: The New Stars of NLP RE•WORK AI Summit 2020
- **Statistics Isn't That Funny, But It Has Its Moments**, banquet keynote at SDSS 2019
- Reproducibility: A Trojan Horse for Software Engineering Best Practices, ICLR 2019
- Modern NLP for Pre-Modern Practitioners**,** keynote at QCon.ai 2019
- If Not Notebooks, Then What? "Reproducible AI" workshop at AAAI 2019,
- Writing Code for NLP Research (with Matt Gardner + Mark Neumann), tutorial at EMNLP 2018
- How Becoming Not a Data Scientist Made Me a Better Data Scientist, Southern Data Science 2018
- AllenNLP and Best Practices for NLP Research, SAP/Concur "Lunch-n-Learn" (and others) 2018
- I Don't Like Notebooks, JupyterCon 2018
- Livecoding Madness: Let's Build a Deep Learning Library**,** ODSC West 2017 (also, OSCON 2018)
- Using AI to Answer Science Questions**,** ODSC East 2017 (also, Southern Data Science 2017)
- Fizz Buzz in Tensorflow, PyData Chicago 2016 (also, ODSC West 2016, WrangleConf 2016)
- Fun With Trump Tweets, Seattle TwitterDev Meetup, October 2016
- Learning and Teaching Data Science from First Principles, Data Day Texas 2016 (and others)
- Stupid Itertools Tricks for Data Science, PyData Seattle 2015
- Image Posterization with k-Means Clustering, Seattle PyLadies (workshop)
- Secrets of Fire Truck Society, Ignite Lightning Talk at Strata 2013

EDUCATION

MS Social Science, Caltech
MS Mathematics, University of Washington
BA Mathematics, Rice University

FUN

Adversarial Learning (podcast co-hosted with Andrew Musselman)
livecoding videos
Fizz Buzz in Tensorflow
School is Not Healthy for Children and Other Living Things (lightning talk about unschooling)

SELECTED PUBLICATIONS

- Reasoning about Actions and State Changes by Injecting Commonsense Knowledge, EMNLP 2018.
- AllenNLP: A Deep Semantic Natural Language Processing Platform, NLP OSS @ ACL 2018.