RYAN B. HARVEY

Coder, Datahead, Educator, Wonk, Dad

Résumé

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https://CodeAndData.codes

Online Profiles

https://people.loyno.edu/~rharvey

https://github.com/nihonjinrxs

https://linkedin.com/in/ryanbharvey

https://twitter.com/CodeAndData

References
Professional

Gavin Hall
Former Chief Technology Officer @ TED
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Michael Twentyman
Former Director of Engineering @ TED
518-423-8832 • mike@thirdfloorstudios.com

Phil Wenger
Budget Systems Branch Chief @ OMB
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Personal

Rev. Elizabeth Lott
Sr Pastor @ St Charles Ave Baptist Church
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Who is Ryan?

I'm a fun-loving geek who is driven to create useful things (mostly with code) almost as much as I am called to teach others how to do it themselves. I'm passionate about clean, purposeful interfaces and joyous user experiences. I enjoy diving into data and have been known to get lost in SQL at times. I read lots of books, but never seem to get through my reading list. I'm a happy husband and father of two.

Education and Training

Johns Hopkins University on Coursera, coursera.org
   Specialization (non-credit): Executive Data Science - data science management (Mar 2016)
University of Maryland, College Park, MD
   Ph.D.: Applied Maths, Applied Stats & Scientific Computing (candidacy Jun 2010; not completed)
   Certificate (non-credit): Innovation Management (May 2010)
   M.S.: Applied Mathematics & Scientific Computing (Dec 2007)
   Graduate Certificate: Scientific Computing (Aug 2007)
   Graduate Certificate: Computational Harmonic Analysis (Aug 2007)
Loyola University, New Orleans, LA
   B.S.: Mathematics & Computer Science (May 2001)
Online Courses: Various on software development, data science, machine learning, and other topics

Professional Experience

Senior Software Engineer, Healthify
Remote / New York, NY   *March 2021-present (full-time)*
I'm a member of the Engineering team at Healthify, a startup enabling organizations to address the social determinants of health by providing solutions for identifying social needs, searching for social services, and coordinating care with an integrated network of community partners to improve outcomes.

- Prototyped in-app self-serve reporting feature long requested by customers, then began building it.
- Enabled the team by significantly improving speed and reliability of CI, deploys, and ELT processes.

Adjunct Instructor, Loyola University New Orleans
Onsite & Remote / New Orleans, LA   *Dec 2016-present (4 years, part-time)*
As an Adjunct Instructor, I teach upper level undergraduate computer science courses. In a volunteer capacity, I assist the Department of Mathematics & Computer Sciences with computer science curriculum development, project ideas, community partnerships, and research.

- Developed and taught COSC A451 Software Engineering program capstone course in a service learning mode, engaging students with real-world projects for government and non-profit partners
- Developed and taught COSC A319 Internet Technologies elective course covering Internet fundamentals, protocols and Internet-based software development

Data Scientist & Software Architect, Kitchology Inc.
Remote / Germantown, MD   *Jun 2013-present (7 years, part-time)*
As part of a small tech team at this startup, I develop machine learning and data analysis algorithms for food and recipe science. I also wear any other hat needed, from server and database management to launch planning to business process and software architecture.

- Built out AWS deployment infrastructure for application services
- Developed and proved database schema supporting multiple applications and data analysis services
- Architected services-based application delivery using containerized deployment
- Setup continuous integration services for development use by staff and contractors

Skills

Human Languages:

English (native), Japanese (working conversation, limited reading/writing)

Academic Fields:

Computational Harmonic Analysis, Software Engineering, Distributed Computing, Machine Learning

Management & Leadership:

Visioning, Strategic Planning, Public Speaking, Agile Project Management

Computer Languages:

JavaScript/Node.js, Ruby, R, Go, SQL, Python, HTML, CSS, Elixir, Java, C, MATLAB, SAS

Databases:

PostgreSQL, MySQL, SQLite, IBM DB2, MongoDB, Amazon RedShift, Neo4j

Operating Systems:

Apple macOS, Linux (various; Ubuntu preferred), Microsoft Windows

Packages & Frameworks:

Express, React, Rails, Sinatra, Shiny, Plumbr, Flask, Phoenix, NumPy, SQLAlchemy, and others

Media Creation Software:

Google G Suite, DaVinci Resolve 16, Adobe Creative Suite, Apple Keynote, Prezi, Inkscape, The GIMP

Details can be found on my website: https://CodeAndData.codes, and pages linked from there.

Professional Experience (continued)

Senior Backend & Data Engineer, TED Conferences

Remote / New York, NY   *Aug 2016-March 2021 (4 years, full-time)*

In this position on TED's Technology Team, I build processing pipelines and products for TED's web presences and for the organization's internal tools and reporting. I spent about two years on the Analytics Squad, after which I've been working in the Video Squad.

- Built a user recommendations API that serves recommendations for over 10 million subscribed users

- Built and maintain the open source @tedconf/fessonia Node.js library for integrating FFmpeg

- Built an automated, Dockerized encoding process integrated with our asset management system

Research Affiliate, University of Maryland

Remote / College Park, MD   *Jun 2014-Jun 2019 (5 years, part-time)*

I was a research affiliate in the Norbert Wiener Center for Harmonic Analysis and Applications, housed in the Department of Mathematics. I occasionally collaborated with NWC staff on research in applications of harmonic analysis, mostly in the areas of machine learning, signal processing, and dimensionality reduction of large data sets.

- Carried out self-directed research and collaborated with faculty on research into manifold learning methods for dimensionality reduction of large data sets, data compression, and signal processing

- Researched and created MATLAB- and C-based software for blind sound source separation using Kalman-based modulation filter banks modeling how the brain's auditory cortex processes sound cues

IT Project Manager, Executive Office of the President

Onsite / Washington, DC   *Apr 2012-Aug 2016 (4 years, full-time)*

In the Budget Systems Branch of the Office of Management and Budget, I was responsible for the development of our data collection platforms, including a next generation data collection platform composed of Java EE-based micro-services, that facilitate government-wide data collections and enable the development and publication of the President's Budget. I made sure our 180,000+ users were happy and ensured that all the must-have features were complete within the impossible timelines allocated. I was also responsible for our UX design team, delivering style guidance, prototypes and coded front-end solutions across many of our 50+ web applications. In addition, I managed a few other web apps, wrote lots of SQL, and improved our development and project management tools and processes.

- Built and delivered a map-based display of community programs information on the White House website front page which was covered by Wired magazine

- Managed development and improvement of a suite of collaboration applications, leading several cross-functional teams of contractors and in-house technical staff in work on over 50 applications

- Developed, delivered and began implementation of a multi-year software architecture shift to cloud-capable services, including hardware and networking transition, application software architecture and interface specification, service transition and launch planning, CI/CD automation, and security, monitoring and maintenance planning

Hardy-Apfel IT Fellow, Social Security Administration

Onsite / Baltimore, MD & Washington, DC   *Mar 2009-Mar 2012 (3 years, full-time)*

In this rotational leadership development program, I impacted each major program the agency runs. I led a research effort on health IT to improve disability claims processing, facilitated the development of the agency's strategic plan, developed communications for the agency CIO, led several web-based communications and full-stack development efforts in the Office of Open Government, and wrote software to model effects of retirement program policy for the Office of Policy Analysis.

DSP Analyst & Software Engineer, BAE Systems

Onsite / Washington, DC   *May 2006-Feb 2009 (3 years, full-time)*

In the Sensor Systems division's Advanced Technologies group, I developed software and associated mathematics and algorithms for DARPA-funded research projects using such technologies as VLF controlled-source EM sensing, tomography, compressed sensing, GPS tracking, and noise reduction.