

Paul A. Jungwirth

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SKILLS

PostgreSQL

- Core contributor since 2015: UUIDs for GiST indexes, multiranges, SQL:2011 application time.
- User since 2010: SQL, schema design, stored procedures, query optimization.
- Extension author: `aggs_for_arrays`, `aggs_for_vecs`, `range_agg`, `inetrangle`, `floatfile`. Proprietary extensions for job queue, SNS integration, others.
- Administrator: Set up replication, failover, monitoring, backups, etc. on bare metal, cloud, and Kubernetes using CloudFormation, Terraform, Helm, Chef, Ansible, Bash, Prometheus. Author of Postgres Munin plugins.
- Consultant: hired to scale up to 8TB, optimize queries, redesign tables.
- Trainer: configuration tuning, indexes, memory usage.
- Speaker: Temporal Databases (2024–2019), Benchmarking Temporal Foreign Keys (2024), The Executor Phase (2023), A Strategy for Timezones (2016), Advanced SQL in ActiveRecord (2015).
- Author: Articles for Temporal Databases Bibliography, SQL:2011 Vendor Comparison, Logical Replication, Permissions, miscellaneous topics.
- Researcher: Published the only SQL implementations for temporal outer join, semijoin, antijoin, union, intersect, except, as well as the only temporal databases benchmark.

Python

- Frequently a daily developer since 2001.
- Experience with Django, Flask, SQLAlchemy, numpy, pandas, spaCy.

Ruby & Rails

- Near-daily developer since 2010.
- Published gems: `active_model_serializers_pg`, `topiary`, `db_leftovers`, `cron2english`, others.
- Contributed to Rails core, devise, geocoder, jsonapi-resources, rein, fx, pg-audit-log, many other gems.

Other languages

- Javascript: 1998–present, including React, Angular, Vue, Node, Typescript, but recently I’m more focused on backend.
- C: 1993–present, on Linux, Solaris, Tru64, macOS, and Windows, sometimes for pay, mostly for Postgres these days.
- Java: 1997–present, daily for many years, now occasional. Spring, Android, Atlassian plugins, J2EE.
- Also used for real projects, maybe not that long ago: Go, Rust, C#, Objective C, Lua, R, Elixir, Perl, L^AT_EX, XSLT.
- Tried it, forgot it: Scheme, Prolog, Assembly (MIPS & x86), Swift, Pascal, Octave, C++, PHP, Visual Basic.

Other databases

- MySQL: 2001–present, pretty often
- MS SQL Server: 2018–present, sometimes with depth
- Redis: 2011–present, very often, occasionally with depth
- Mongo: 2011–present, sometimes
- InfluxDB: 2020–2021
- Oracle: 2001–2005

WORK HISTORY

Illuminated Computing

2006–present

- Ran my own consulting & freelance business, specializing in Rails, Postgres, and Kubernetes.
- Clients included State Street, Intel, Nike, U.S. DoD, HHMI, Puppet Labs, many startups.
- Industry experience in finance, health care, e-commerce, outer space, manufacturing, legal, tech startups.
- Engagements from weeks to many years.
- Duties ranged from soup-to-nuts full-stack web development, Rails/Django back-end development, Postgres specialist, devops specialist.

ElectNext

2011–2012

- Founder and CTO.
- Used machine learning to match voters to down-ballot candidates.
- Led a team of 5. Accepted to DreamIt Ventures, Wharton VIP, Good Company.
- Helped raise over \$100,000 in other angel investments.

Banta Integrated Media and Xyan.com

2000–2005

- Tech lead & customer representative for several major clients.
- Python, Java, Perl, C, SQL, Javascript, Bash.

Delphic Software

1994–1996

- Employee #1.
- Helped develop one of the Mac's first web servers, OneSite, using C and C++.
- Helped build and support BBS extensions for SMTP, FTP, and Gopher.

EDUCATION ET CETERA

Professional Development

- U.S. Security Clearance, DoD 8570 IAT-I.
- Network+ Certification (2021–2024).
- Coursera Machine Learning from Andrew Ng (2012).
- StackOverflow contributor with 24,423 reputation (as of November 2024).

University of Pennsylvania

2007–2011

- ABD: Completed M.A. in Classical Studies, left to co-found startup.
- Taught Latin and Ancient Mythology.
- Robert A. Fox Presidential Prize Fellow.
- GRE: 800 verbal, 790 math, 5.5 writing.

Harvard Extension School & Summer School

2001–2005, 1994

- Distributed Computing, Greek, Latin, other topics.

Willamette University

1995–1999

- English major, Math minor.
- C.S. classes included Algorithms & Data Structures, Machine Organization, Programming Languages.
- National Merit Scholar.
- Phi Beta Kappa.
- Speech & debate team.
- Graduated magna cum laude.