Travis B. Hartwell

✉ nafai@travishartwell.net   ⚲ iam.travishartwell.net

⦿ Seattle, WA   ⌨ GitHub Profile

☎ (208) 351-8390   Ⓜ LinkedIn Profile

Professional Profile

Innovator. Problem-Solver. Software Engineer. Known for fixing the unfixable and driving operational efficiency by automating the disjointed and scaling the gridlocked. 15+ years experience in software packaging, dependency management, and writing custom tools and automation for everything from large-scale distributed systems to desktop GUI components and applications to general software tools. Deep expertise in infrastructure management, CI/CD pipelines and problem-solving. Proven mentor and teacher, open-source advocate and presenter at national tech conferences.

Experience

Senior Systems Development Engineer   **May 2017 - March 2024**
Amazon / Amazon Web Services   **Seattle, WA**

Code Foundations   *November 2022 - March 2024*

- Eliminated security and performance issues Amazon-wide by enabling update of Java JDK dependency to JDK 8, by writing custom dependency and build request analysis software. Update accomplished in 4 months instead of budgeted year.
- Designed and implemented dependency update task runner in Go and custom worker fleet for Amazon-internal Dependabot-like service, used to generate updates for dependency lock files for tens of thousands of Amazon internal software packages.

Builder Tools   *August 2020 - November 2022*

- Designed process, and implemented software changes to support it, to upgrade a fleet of 2,500 build hosts to a newer operating system version for a security campaign, allowing for safe piecewise migration with the possibility of rollback. Fully executed in 3 months; previous upgrades took 12+ months.
- Scaled the automated build fleets through operational process and software improvements from two fleets of roughly 1,500 worker hosts to four fleets of 5,000+ worker hosts, enabling easy handling of increased build traffic.
- On-call incident management, during large scale events such as the Log4Shell event in 2021 requiring rebuild of nearly all 575,000 software packages Amazon-wide.
- Technical lead on team that developed and operated the automated build fleets and the associated distributed task queue system used by 80,000+ technical staff Amazon-wide on 575,000 software packages performing hundreds of millions of build tasks weekly.
- Mentored junior developers on team with code and design reviews and assistance in operational issues, resulting in 5 being promoted.

Kindle   *March 2018 - August 2020*

- Designed and implemented a system used to identify and clean up unused infrastructure resources (server hosts, software packages, CI/CD pipelines) owned by 40+ managers. Trained the operations team on execution, eliminating 10% of the security issues across the organization.
- Single-handedly managed and supported the Kindle feature WordWise; front-end implementation on EInk and Android app, management and update of backend systems used to process Kindle content, incident management, and escalated customer support.
- Wrote custom dependency analysis software package that enabled targeted update of dependency versions across a related set of packages. Used in the upgrade of several large systems in response to security campaigns.

Digital Commerce   *May 2017 - March 2018*

- Selected engineer to train accounting system development teams how to troubleshoot, investigate and better utilize their own software used to calculate and pay royalties on content sales. Trained and supported the major digital business units (e.g. Kindle, Prime Video, Amazon App Store) on using that system.
- Implementation lead and primary support for accounting systems governmental compliance with launch of Prime India. Identified and provided fixes to ensure on-time launch with full regulatory compliance.

Professional Services Contractor   **September 2015 - April 2017**
Basho Technologies   **Remote**

- Managed provisioning, configuring, and administering clusters running Mesos used by development teams for test and development using Ansible.
- Implemented features and fixes for Riak Explorer, the Riak Mesos Tools, and the Riak Mesos Framework.
- Wrote and executed formal test plans and reports for clients covering performance testing, operational testing, and scaling testing.

Software Engineer   **May 2006 - February 2008**
21st Century Technologies   **Austin, TX**

- Contributed compiler extensions for the Lynxeon Pattern Query Language to support new language constructs.
- Integrated uDig (a GIS application) into Lynxeon Analyst Studio (an application implemented with the Eclipse RCP IDE framework), including custom data export dialogs and project synchronization.

Skills

- Programming Languages: Bash, C, C++, Common Lisp, Emacs Lisp, Erlang, Go, Haskell, Java, Javascript, Lua, Python, Ruby, Rust, SQL
- GUI Development With Java: SWT, Eclipse RCP, Swing
- GUI Development In Python, C, Haskell: Gtk and Gnome
- HTML and CSS
- General AWS Services (S3, SQS, Cloud Watch, Cloud Watch Log Insights Queries)
- System Administration
  - Extensive admin of Debian, Ubuntu, and Amazon Linux
  - Debian packaging and some RPM packaging.
  - NixOS packaging and administration.
  - Some CentOS, RHEL, and Arch Linux admin and Linux administration in general.
  - Docker

Open Source and Community Contributions

All personal open source code and contributions can be found at here.

- Creator of BASIC interpreter implemented in Rust, rbasic, including a hand-crafted parser.
- Creator of MyCmd, a framework and tool for writing tools in Bash shell scripts.
- Creator and contributor to Nix Emacs.
- Contributions of code, packages, and documentation to NixOS and Spacemacs.
- Contributed support, bug fixes, and documentation for the Twisted Project.

Publications and Presentations

Full list and details of publications and presentations found here.

- Presented at Open West 2016, "Spacemacs: The Best of Both the Emacs and Vim Worlds."
- Presented at PyCon DC 2004, "PyGtk and PyGnome Programming."
- Presented at PyCon DC 2003, "A Twisted Web Tutorial."
- Gave various presentations, primarily around Python, Emacs, and regular expressions, at local user groups from 2000-2011.
- Published code in colleague Marc Anderson's Master's thesis, "Adapting Minimum Temperature Forecasts to Fruit Orchards in the Intermountain West."

Education

B.S. in Computer Science   **Fall 2003**
Utah State University   Logan, Utah