

Josh Holbrook

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Employment History

Procore Technologies, Embedded Site Reliability Engineering
Staff Software Engineer

August 2022 - January 2024
Remote

- Led embedded engagements to accomplish infrastructure milestones
- Became a subject matter expert and evangelist for SLOs, educating my team and driving SLO adoption
- Collaborated and drove consensus among technical leaders
- Led development on an ETL framework for operational insights in TypeScript, enabling SREs to easily collect data
- Developed a circuit breaker to disable file uploads when NFS was unavailable, virtually eliminating a failure mode that could cause a full outage
- Mentored and trained team members through one-on-one meetings and office hours
- Acted as first-line on-call for the core application
- Offered operational support for Terraform

Eaze, Core Services
Staff Engineer

October 2021 - August 2022
Remote

- Added OpenTelemetry support to the boltzmann framework, preparing boltzmann services for migration from Honeycomb beelines
- Developed a migration toolchain and pipeline for SQL Server, improving safety and speed of .NET development
- Made recommendations for hiring decisions and process changes, many of which management adopted

DoubleVerify, Social Integrations
Staff Data Engineer

July 2020 - October 2021
New York NY

- Led project to develop a greenfield hybrid streaming/batch pipeline, shipping an MVP in only 7 weeks and scaling to tens of millions of content items
- Developed an internal data engineering framework with a focus on first-class PyCharm support, confidence in correct code and rapid development
- Owned the Engineering Bi-Weekly meeting, where engineers shared department-wide updates and gave regular presentations
- Mentored and trained other engineers on the team through pair programming, documentation and videos

Squarespace Inc, Finance Products
Senior Software Engineer

July 2019 - January 2020
New York NY

- Supported and maintained financial data pipelines used for ASC606 revenue recognition, cash and tax reporting and financial planning for a multi billion dollar web site host
- Spearheaded proposals to onboard billing and payments data onto a data vault reference architecture to improve velocity and decrease bugs, and to rearchitect reporting to mirror industry standard BI tools
- Designed and instituted an on-call process to ensure that support work was spread evenly

Gizmodo Media Group, Data Engineering
Senior Developer

September 2016 - May 2019
New York NY

- Acted as the technical lead to deliver Amazon affiliate program commerce analytics involving three teams and multiple contractors, providing experiment data used to optimize conversions on a front page redesign
- Owned internal analytics and recommendation systems that served over 100 million users a month; overhauled legacy systems and implemented monitoring, vastly decreasing total outages and virtually eliminating undetected outages
- Architected an A/B testing API so experiments could be configured with a web UI instead of disparate scripts
- Designed, built and maintained ETL jobs for a rapidly-growing data warehouse using Python, AWS RedShift and Looker
- Ported the organization's microservice framework from Scala and Play to Python and Flask to enable development of services by the data team
- Mentored junior employees on the team

Condé Nast, Copilot API
Software Developer
February 2014 – August 2016
New York NY

- Worked on the team that launched Vogue Runway's real time fashion show coverage during New York Fashion Week, including leading a data migration that replatformed over a decade of content
- Wrote HATEOAS-inspired graph-capable content relationships API that supported the data modeling needs of over a dozen brands using Condé Nast's all-new internal CMS

i.TV LLC
Software Engineer
August 2013 – November 2013
Provo UT

- Developed new features and debugged memory leaks in internal content creation and management tools with CoffeeScript and AngularJS to enable real-time creation and curation of live content created over the course of a full TV episode

Big Company
Software Developer
December 2012 – June 2013

- Paired on the development of the Big framework
- Wrote prototype applications using the Big framework, including an application to cross-post GitHub user actions onto Twitter

Nodejitsu Inc
Head of Support
July 2011 – December 2012
San Francisco CA

- Managed and trained other support engineers
- Monitored support channels such as IRC, email and Twitter for support requests
- Triaged and investigated live production issues with Nodejitsu software, servers and cloud providers
- Maintained, fixed bugs and made releases of modules in the Flatiron framework and Nodejitsu's open source software
- Developed and maintained internal support infrastructure and tooling

UAF Mechanical Engineering Department
Teaching Assistant
September 2010 – May 2011
Fairbanks AK

- Graded homework and designed quizzes for ES 346, Basic Thermodynamics
- Graded homework for ME/ENVE 456/658, Energy and the Environment
- Graded homework for ME 403, Machine Design
- Redesigned and conducted laboratory experiments for ME 415, Thermal Systems Lab

UAF Institute of Northern Engineering
Research Assistant
January 2010 – August 2010
Fairbanks AK

- Designed and ran finite element models using COMSOL and MATLAB to study anisotropic thermal conductivity in snow using needle probes
- Analyzed geographical information using Perl, Python, MATLAB and C++

UAF Mechanical Engineering Department
Office Assistant
January 2008 – December 2009
Fairbanks AK

- Tracked purchase information on UAF's Oracle database and compiled it into a human-readable form
- Facilitated communication between students, faculty and system administration

UAF Conference Services
Painter
May 2008 – August 2008
Fairbanks AK

- Patched, painted and wet-sanded walls, ceilings, doors and trim

UAF Mechanical Engineering Department
Homework Grader
September 2008 – December 2008
Fairbanks AK

- Graded and corrected homework assignments for ES 331, Mechanics of Materials

Panco Construction
Construction Laborer
May 2007 – June 2007
Talkeetna AK

- Stocked, staged and assisted in the install of solid surface countertops, shower enclosures and windowsills
- Sanded, polished and assisted in the fabrication of solid surface countertops, shower enclosures and windowsills

UAF Water and Environmental Research Center
Laboratory Assistant
February 2007 – May 2007
Fairbanks AK

- Took an inventory of all chemical stock in the laboratory
- Tabulated, manipulated and organized well water test data in Excel to deliver reports to homeowners

Aramark-Harrison Lodging
Porter

May 2006 - August 2006
Denali National Park AK

- Stocked carts with linen, tarry and supplies for housekeepers
- Cleaned and maintained public areas, including bathrooms
- Prepared rooms for guest arrival
- Handled individual guest requests

Education

Master of Science, Mechanical Engineering
University of Alaska Fairbanks
Thesis: *The Determination of Anisotropic Thermal Conductivity with Thermal Needle Probe Measurement*

September 2009 - May 2011
GPA: 3.62

Bachelor of Science, Mechanical Engineering (Minor: Mathematics)
University of Alaska Fairbanks

August 2005 - May 2010
GPA: 3.67

Master of Science, Mechanical Engineering
University of Alaska Fairbanks

September 2005 - May 2011
GPA: 3.62

High School Diploma
Susitna Valley Jr/Sr High School

May 2010
GPA: 3.73

Projects

pyee ★211 July 2011 - Current

A Python port of the Node.js EventEmitter with special support for concurrency and async frameworks

old memes July 2011 - Current

An old school Node.js anti-framework, built around classic era Node.js modules, developed as a labor of love over the last decade

plusdeck October 2023 - Current

Reverse engineered protocol documentation and tools for the Plus Deck 2C PC Cassette Deck

Matanuska BASIC June 2022 - Current

An ongoing project to learn how to write a BASIC interpreter

resume 2011 - Current

My resume, written in \LaTeX and featuring a custom class and \LaTeX DSL

korbenware April 2019 - June 2023

A Linux desktop management suite using Python and Bash, which includes an implementation of XDG autostart, an application launcher, and an XDG menu TUI

coprctl June 2023

A wrapper around copr-cli that affords a Kubernetes-inspired IaC interface for COPR

omsxctl August 2022

A CLI tool for controlling the openMSX emulator over its socket API

PSeudo April 2020

A PowerShell module for privilege escalation using named pipes and .NET binary serialization

Cackledaemon ★4 April 2020 - Present

A PowerShell module for managing a Windows 10 Emacs install that includes an installer and update wizard, functions for daemon management and a notification icon built with Windows Forms

twisted_ipython June 2019

An IPython extension using Crochet that enables Twisted autoawait support in IPython and Jupyter notebooks

IHydra ★9 January 2020 - February 2020

A Jupyter kernel for hydra, a video synth, written in JavaScript and WebGL, using Electron, and React code from the IJavaScript Jupyter kernel

korben-twitter ★2

January 2014 – August 2019

A Twitter bot that uses markov chains to make funny tweets as my pet parakeet, originally written in Node.js but now using Bash and SQLite and running on Windows using the WSL

ecstatic ★912

November 2011 – May 2019

A fully-featured static file serving middleware for Node.js

gshell.py ★1

June 2019 – Present

A port of GLib's gshell library to Python

Counting of Stream Crossings Along a Path Between Two Given Alaskan Villages March 2010 – May 2010

A feasibility study for laying unburied fiber optic cable over tundra in remote regions of Alaska using Python, qgis and ESRI shapefiles

The Determination of Anisotropic Thermal Conductivity with Thermal Needle Probe Measurements
May 2010 – May 2011

A master's thesis on the theory and viability of measuring anisotropic thermal conductivity in snow with needle probes, including 3D finite element models in COMSOL and MATLAB; an analytical model; a prototype experimental procedure for benchmarking the technique; and the first attempt at using the technique against real snow

Awards

Center for Global Change Student Research Grant

May 2010

Project: *Determining Anisotropic Thermal Conductivity of Snow with Needle Probe Measurements*

Award: \$8200

3rd Place, 2020 Campus Research Day Undergraduate Symposium

April 9th, 2010

Project: *Development and Benchmarking of Optical Touchscreen User Interface Technology*

Award: \$1000

Undergraduate Research Grant

October 2009

Project: *Development and Benchmarking of Optical Touchscreen User Interface Technology*

Award: \$2250

Service

American Society of Mechanical Engineers, Student Chapter

September 2009 – May 2010

Volunteered at E-Week activities, and administered the chapter's website and Facebook page

Skills

Languages: Bash, JavaScript, TypeScript, PowerShell, Python, Scala, Rust, Go

Operating Systems: Ubuntu Linux, Fedora Linux, Raspberry Pi OS, MacOS, Windows

Cloud Platforms: AWS, GCP, DigitalOcean

Databases: PostgreSQL, MySQL, SQL Server, BigQuery, RedShift, Vertica, SQLite, CouchDB, MongoDB

Frontend Engineering: CSS, HTML, Django, Express, React, Electron

Backend Engineering: NGINX, Flask, Node.js, Redis, asyncio, Twisted

Data Engineering & Data Science: Airflow, Spark, Jupyter, LookML, Kafka, Pandas, Data Warehousing, Numerical Methods, Optimization

DevOps: Ansible, Terraform, DataDog, NewRelic, OpenTelemetry, Prometheus, Docker, GitLab CI, CircleCI, Kubernetes, systemd, Vagrant, SLOs

Leadership: Consensus Building, Decision-Making, Mentorship

Document Languages: LaTeX, Markdown, Org, ReStructuredText