Craig Barber

Software Engineer | Cleveland, OH | https://craigdbarber.net |
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Seasoned software engineer with backgrounds in full software development life-cycle, cloud infrastructure, technical leadership and developer community outreach. Passionate about engineering excellence, providing a first class customer experience, and empowering developers.

Technical Competencies

- **Languages:** Java, Python, C#, Go, TypeScript/JavaScript (for CI/CD toolchain)
- **Cloud & Infrastructure:** GCP (GCE, GKE, GCS), Azure, Kubernetes, Terraform, Jenkins, GitHub Actions, Bazel
- **System Design:** Distributed Systems, CI/CD Architecture, Scalable ETL Pipelines, Security Forensics

Work Experience

Google - Software Engineer 2016-2022

Google Cloud Platform, Open Source Infrastructure, SWE/TL

Led design and implementation of integrations between GCP and popular open source infrastructure tools including Terraform, Jenkins, Github Actions, and Cloud Foundry.

- Orchestrated global support for official Jenkins integrations to unify GCP's CI/CD ecosystem, leading development and support of high-availability plugins for GCE, GCS, OAuth, GCR, and GKE, which resulted in Jenkins becoming the most widely used system for software delivery on GCE.
- Strategized and led the GCP open source CI/CD integrations team, influencing strategic external partners like CloudBees to secure participation in the GCP Anthos Partner program, effectively aligning external roadmaps with internal product goals.
- Designed and engineered HTTP load balancer support for the GCP Terraform provider to automate infrastructure scaling, resolving critical customer requirement gaps through technical leadership and resulting in more complete support of GCP for Terraform customers.
- Spearheaded the design, engineering, and publication of the Jenkins GKE Plugin to simplify container orchestration for developers, managing the end-to-end lifecycle from

requirements gathering to deployment, achieving wide scale deployments of applications to GKE through Jenkins.

- Architected internal CI/CD infrastructure to drive higher developer velocity; mandated aggressive dogfooding of GCP Jenkins plugins to identify stability gaps and accelerate quality improvements.
- Influenced the global developer community by delivering technical workshops and tech talks at DevOps World US/EU, serving on the Jenkins X governance committee to drive open-source standards, resulting in strong partnerships with GCP and the Jenkins community.
- Designed, engineered, and maintained the 'setup-gcloud' GitHub Action plugin from inception to production; provided seamless GCP integration for 170,000+ customer projects, currently processing over 4 billion API requests per 90 days.
- Bootstrapped the GCP Github Actions 20% project, leading without authority to enlist cross-functional contributions and define a unified technical direction, scaling the project into a core integration ecosystem.

***Kythe*,** SWE

Kythe is a team which develops and maintains a scalable graph-structured semantic index of source code. Providing a graph querying service covering all of Google's internal source code.

- Designed, engineered, and maintained Bazel's Build language indexer for the Kythe semantic index to enable Bazel code search capabilities.
- Orchestrated large-scale ETL pipelines to import Bazel semantic data into the Kythe graph, ensuring high data integrity for Google's internal code search services.
- Spearheaded the Kythe Maven Extractor prototype to expand language support, driving architectural strategy for Java ecosystem indexing.

Microsoft - Software Development Engineer 2015-2016

Azure Security Forensics

Azure Security Forensics is a team which provides scalable/automated forensics analysis services for Azure VMs.

Security SDE II, SDE Intern (Summer 2014)

- Designed and engineered a high-performance system for security partner data consumption, architecting ETL pipelines to transform raw Indicators of Compromise (IOC) data into a structured semantic database, resulting in expanded capabilities in threat detection.
- Strategized and implemented an automated forensics extraction system for Azure VHDs, managing strict PII requirements to continually scan 220,000 active VMs for IOCs, resulting in savings of millions of dollars in fraudulent customer charges.

Apple - Software Engineer Intern Summer 2013

Hardware Engineering Reliability

Apple's Hardware Engineering Reliability is a team which develops hardware reliability tests for all Apple hardware products, and maintains ETL pipelines consuming said test data for analysis.

- Designed and implemented tools which provided importation and analysis of internal hardware reliability/testing data.
    - These tools are utilized during the hardware testing process to verify manufacturing QA of iPhones, Macbooks, and other Apple products.

University of Arizona - Web Developer 2011-2014

- Designed and implemented web applications internally for labs within the Neuroscience Department, as well as publicly for the Center for Insect Science.

Knowledge Computing Corporation - Software Engineer

2008-2011

- Designed and implemented ETL pipelines for law enforcement database services.

Tekco Management Group - Web Developer 2007-2008

- Designed and implemented web services for affiliate marketing and video streaming services.

Octopi Media Design Labs - Game Developer 2004-2007

- Designed and implemented mobile games which were published and pre-installed on Nokia's S40 and S60 devices.
- Served as TL leading design, implementation, and support of back-end service for the multiplayer web based game PoxNora.

Community Contributions

Girls In Engineering Math and Science (GEMS) - Google Coding Workshops

- Directed an annual coding on-site workshop program for GEMS at Google: https://seattleawis.org/gems/
- Lead volunteer organization, logistics, and funding efforts.

GCP Adopt A School Hackathon Mentor

- Served as a mentor representing GCP at the University of Arizona's annual "Hack Arizona" hackathon.

Education

- B.S. Computer Science, University of Arizona, Tucson, AZ, 2014