Karl Hill

SENIOR SOFTWARE ENGINEER

Summary

Innovative and results-driven Senior Software Engineer with over 20 years of experience in full-stack development, cloud-native solutions, and Agile team leadership. Expertise in delivering high-impact solutions across diverse industries, leveraging advanced technical skills and a passion for problem-solving to drive organizational success. Proficient in client engagement, strategic planning, and leading cross-functional teams to exceed project goals.

Professional Experience

Sr. Software Engineer, Science Systems and Applications, Inc (SSAI), Lanham, MD

DECEMBER 2017 — PRESENT

- Architected NASA's cloud-based Flood Mapping System on AWS, providing real-time satellite-derived flood data to empower rapid disaster response.
- Developed a high-performance file and metadata management system using Ceph, optimizing virtual directory mapping and improving data accessibility.
- Redeveloped Earth Observatory's high-traffic website (~1.5M monthly visitors), dramatically improving performance, usability, and search engine visibility.
- Developed an automated content registry application, boosting NASA's data collection efficiency by 60% and enabling faster researcher access.
- Orchestrated deployments via CI/CD using GitLab, Docker, and Kubernetes, coordinating deployment ticket creation and stakeholder approvals.
- Led Agile teams to deliver software aligned with NASA mission objectives.

Sr. Software Engineer, InformedDNA, St. Petersburg, FL

JANUARY 2016 — DECEMBER 2017

- Architected a Laravel-based case management application, saving $30K in operational expenses.
- Designed advanced CRM enhancements, increasing customer retention and contributing 15% to revenue growth.
- Introduced custom APIs, optimizing database usage and reducing operational overhead.
- Spearheaded system upgrades, doubling security incident response efficiency.

Sr. Software Engineer, Ticomix, Inc., Washington, D.C.

JUNE 2012 — MARCH 2015

- Delivered SugarCRM applications for 20+ clients (VDOT, Redskins, Kastle), leading to an increase in efficiency and productivity across sales departments.
- Reduced defect backlog by 90%, enhancing product quality and customer satisfaction.
- Created an application to assist companies in identifying business opportunities.
- Collaborated within a distributed team, demonstrating strong remote collaboration capabilities, essential for driving product development.

Details

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Links

https://www.linkedin.com/in/khill/

https://karlhill.com

https://github.com/karlhillx

Skills

Team Leadership

Stakeholder Engagement

Cross-Functional Collaboration

Agile Methodologies

SDLC Processes & Execution

Test-Driven Development

Object-Oriented Design

Technical Troubleshooting

Cloud-Native Solutions

Continuous Integration (CI/CD)

UX / UI Development

Software Engineer, Sabre Corporation, Bethesda, MD

JULY 2010 — JUNE 2012

- Built and optimized PHP applications for global travel clients, improving user experience and satisfaction.
- Translated client requirements into technical specifications, leading to customized, impactful solutions.
- Mentored junior developers, fostering a culture of growth and learning

Principal Software Engineer, Dante Inc., Arlington, VA

MAY 2007 — JUNE 2010

- Engineered Java solutions for industry leaders (Comcast, Mastercard, etc.), optimizing operations and increasing efficiency by 40%.
- Conducted thorough unit and acceptance testing using Selenium to ensure software reliability.
- Played a pivotal role in delivering Scrum-based projects, achieving optimal performance metrics.

Sr. Software Engineer, Visitar, Inc., Reston, VA

JANUARY 2006 — FEBRUARY 2007

- Collaborated on a Java-based telephony application with Asterisk integration, enhancing SugarCRM with features such as ACD, call routing, web-based IVR, and voicemail, resulting in an improved customer service experience.
- Built a CRM telephony component using Flash/ActionScript, optimizing call management and handling over 1000 daily customer interactions.
- Rapidly identified and resolved technical issues, maintaining smooth operations and achieving a 99% reduction in system downtime.

Software Developer, Verizon Business, Herndon, VA

NOVEMBER 1999 — MARCH 2005

- Instrumental in building NetSec's managed security-services platform, Finium, leading to a tenfold increase in client engagements, a prestigious presentation at Gartner, and MCI/Verizon's posthumous acquisition of NetSec for $105m.
- Boosted client on-boarding efficiency by 75% by developing Finium's internal administration systems using PHP and Java.
- Key contributor to a 7+ person Java agile team, transitioning from initial XP and waterfall methodologies to Scrum, leading to increased quality.

Education

Bachelor of Science, Computer Science coursework, Univ. of Maryland

Associate of Arts, General Studies, Howard Community College

Certifications

Professional Scrum Master II (PSM II), Scrum.org

(Professional Scrum Developer I (PSD I)), Scrum.org

Certified ScrumMaster (CSM), Scrum Alliance

Project Management, Rutgers University

Technical Skills

Programming Languages: JavaScript, Python, PHP, Java, Perl, Bash

Development Stack: Node.js, Laravel, React, Tailwind, jQuery, REST APIs

Data & Storage: MySQL, PostgreSQL, SQL Server, Oracle, Elasticsearch, JSON

DevOps & Infrastructure: Docker, Kubernetes, AWS (EC2, S3), GitLab CI/CD

Tools & Technologies: Git, JetBrains IDEs, Jira, Figma, Vite, NPM, Composer