Chris Arnesen

Minneapolis, Minnesota
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Education

Ph.D. Physics, Massachusetts Institute of Technology, Cambridge MA, 2002-2007

B.S. Physics, California Institute of Technology, Pasadena CA, 1997-2001

Experience

SENIOR SOFTWARE ENGINEER • GLOBAL TRAFFIC TECHNOLOGIES • FEBRUARY 2016 - PRESENT

Architected and built full-stack applications for internet of things (IoT) devices and cloud services (Node.js, React, and AngularJS). Instituted best practices for software development: automated testing and deployment, continuous integration, code reviews, reproducible builds. Served as tech lead for web engineering.

OPEN-SOURCE SOFTWARE ENGINEER • JANUARY 2015 - JANUARY 2016

Wrote open-source JavaScript programs for the Bitcoin Core daemon, bitcoind. Attended Blockchain University, a 10-week program on Bitcoin and other cryptographic currencies. Wrote technical documentation for Bitcoin Core. Attended Prime Digital Academy, an 18-week accelerated learning program teaching foundational software engineering skills.

DEVOPS ENGINEER, STORYCLOUD • MOUNTAIN VIEW, CA • MARCH - DECEMBER 2014

Configured cloud computing resources for a web startup with a focus on security and scalability. Standardized laptop development environments using virtualization and configuration management. Implemented continuous build-test-release pipelines and live monitoring for our source code.

FIELD CONSULTANT, AB INITIO SOFTWARE • JUNE 2011 - DECEMBER 2013

Translated big-data applications to the Ab Initio programming language. Developed data differencing algorithms to test program output. Architected the merger of critical mainframe applications at a major airline.

INTERNAL CONSULTANT, AB INITIO SOFTWARE • LEXINGTON, MA • APRIL 2009 - MAY 2011

Responded to customer support requests about application design, best practices, performance tuning, software failures in development and in production for Ab Initio Software, a platform for high-volume data processing applications and enterprise application integration. Developed and delivered instructor-led training courses. Unified the company's disparate training and demo programs into a single lightweight installer.

POSTDOCTORAL RESEARCHER, CARNEGIE MELLON UNIVERSITY • SEPTEMBER 2007 - JANUARY 2009

Calculated limits on the rate of Higgs boson production at the Large Hadron Collider.

Skills

Software engineering, application architecture, distributed data processing, DevOps, technical writing, teaching, curriculum development, consulting, customer interaction, leadership, security, configuration management, automation, testing, modeling

• Languages: JavaScript, HTML, CSS, Ab Initio, SQL, Ansible, Mathematica, Bash, Ksh, Python, PHP, Fortran, LaTex, Cobol, Markdown, Java, Matlab

• Databases: PostgreSQL, MongoDB, SQL Server, Bitcoin, Teradata, Oracle, Hadoop, HBase, Kafka, ElastiCache, MySQL, WebSphere MQ, RabbitMQ, Ab Initio multifiles and queues

• Version control: Git, GitHub, SVN, Maven, Gulp, npm, Perforce

• Web technologies: Node.js, React, Redux, Angular, WebSockets, Webpack, Babel, APIs

• Cloud computing: Amazon Web Services, Google Cloud, Heroku

• Operating Systems: macOS, Linux, Windows, AIX, SunOS, z/Linux

• Math & physics: linear algebra, geometry, quantum mechanics, quantum field theory, statistics, calculus, trigonometry, complex analysis, Fourier series, linear regression, classical mechanics, symmetry groups, genetic algorithms