Chris Arnesen

Minneapolis, Minnesota
chris.arnesen@gmail.com

Education

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

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

Experience

LEAD FRONT-END ENGINEER (CONSULTANT) • AMERIPRISE FINANCIAL • OCTOBER 2017 - PRESENT

Added features to legacy web applications (Backbone.js, jQuery, lodash). Instituted best practices for agile software development. Evaluated cutting-edge technologies to establish a next-generation browser technology stack (React, Redux, TypeScript).

SENIOR SOFTWARE ENGINEER (CONSULTANT) • YA ENGAGE • APRIL 2017 - SEPTEMBER 2017

Automated provisioning of cloud resources and deployment of web applications using Docker and AWS. Secured the production environment and set up monitoring, logging, and alerts. Wrote microservices for YA's multi-tenant back end (Node.js, PostgreSQL) and bespoke customer websites (React, AngularJS).

SENIOR SOFTWARE ENGINEER • GLOBAL TRAFFIC TECHNOLOGIES • FEBRUARY 2016 - MARCH 2017

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 on AWS 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

Consulted on-site for customers of Ab Initio Software, a platform for creating applications for high-volume data processing and enterprise integration. Developed a novel data differencing algorithm for regression testing. Architected the merger of mission-critical mainframe applications at a major airline.

Experience (continued)

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. 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

• Other technologies: Docker, Node.js, React, Redux, Angular, WebSockets, Webpack, Babel, REST API

• 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