

Nathaniel Buechler

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Cross-disciplinary expert in AI engineering, focused on addressing unique 21st-century challenges within enterprise and government sectors. With over a decade of coding mastery in JavaScript and Python, specializing in leveraging modern frameworks like React and Angular to craft user-friendly interfaces and ensure seamless interactions between AI components and users.

Languages: JavaScript/ES6+, HTML5, CSS3, Python

Front-end: React, Angular (2-10), jQuery, jQuery UI, Web Components, D3, AJAX

Back-end: Node, Express, Flask, Django, J2EE, Grails

Data Science: Pandas, Jupyter Notebook, Scrapy, NLTK, SpaCy, SciPy, NumPy, Matplotlib

Testing and Build: Jasmine, Mocha, Jest, Karma, NPM, Bower, Babel, Grunt, Webpack

Database and Cloud: AWS (EC2, RDS, S3, Route 53, IAM, CodeDeploy, etc), MongoDB, SQL Databases, Neo4j

Experience:

Owner, Alpha Nexus Technologies LLC, (December 2017 – Present)

- Engineered a community interaction platform using React, Flask, Postgres, and AWS (EC2, RDS, S3, Route53), inclusive of an event management system and foundational planning for a community forum, leveraging generative AI and LLMs to expedite development
- Developed robust and secure user management within a microservice architecture, employing Cookie/JWT authentication strategies, and integrating role-based access, CRUD operations, and comprehensive error handling, thus enhancing overall user experience and system security
- Utilized empathy maps, user personas, journey maps, and user stories to craft intuitive and modern enterprise and government software applications, with a strong focus on inclusivity and cultural synchronization
- Applied data science techniques, using Scrapy for web processing, NLTK for parsing, Pandas for handling analysis pipelines, and Matplotlib for graphing results, to enrich analytical capabilities

Associate and Senior Full Stack Engineer, The Boulevard Consulting Group, (February 2023 – April 2023)

- Simulated optimal throughput with Simio of metal processing assembly lines to enhance the production of risers, transitions, and meters sets with an L2 metric-based approach which in turn reduced the distance of servers
- Statistically represented several assembly line models with Monte Carlo experiments in Simio to assess future assembly layouts and to suggest the strategy and function of reducing cost per utilization of physical space
- Adapted new and existing Django, Flask, and React applications to support data aggregation, decision analysis systems, and other data processing use cases via unit testing, D3.js data visualization, Python, and JavaScript

Senior Software Engineer (Contractor), Radyant Inc, (September 2021 – December 2022)

- Modernized federal government legacy enterprise components to Angular 10 within an 'angular-gridster' intelligence dashboard in order to display dynamic 'ngx-charts' and D3.js data visualizations that solve mission-critical problems ranging from international to local use cases
- Encapsulated highly-scalable and reusable Angular components via 'state-of-the-art' RxJS patterns for interactive and complex executive data analysis which enabled executive users to gain insights about global ontologies, logistics, supply chains, and other workflows of their entire federal government enterprise
- Connected with various teams ranging from 5 to 20 members while practicing the SAFe 5 Scaled Agile framework to, in fact, provide simple and efficient user-centered analytics for federal government missions

Senior Software Systems Engineer, Rivera Group, (February 2020 – January 2021)

- Upgraded and transformed tightly-coupled legacy JSP/AngularJS views into its modern Angular 9 equivalent as part of a major transition to a service-oriented architecture (departing from a monolithic pattern)
- Improved code reusability with Web Components and the Shadow DOM through the implementation of the 'ViewEncapsulation' standard in the Angular ecosystem
- Handled shared state between components with RxJS Observables and specifically with the 'BehaviorSubject' module
- Rendered intuitive interfaces through the use of Material Design best practices and generated dynamic data visualizations with D3.js (version 5)

Senior Full Stack Developer, TISTA Science & Technology Corporation, (September 2019 – November 2019)

- Engineered 'green-field' software applications and communicated advanced software architecture patterns while documenting state-of-the-art concepts
- Lead the development efforts on several concurrent application development initiatives and collaborated within small agile teams

UI Developer (Contractor), Insight Global, (January 2019 – June 2019)

- Developed Angular 6 form-based user interfaces for configuring networks.
- Cooperated on an international team working across multiple time zones and participated in regular SCRUM ceremonies taking place as 3 week cycles.
- Contributed work remotely as a sub-contractor for Cisco and Bank of America (their central location was located in New York, NY).

Research Engineer, Two Six Labs (formerly Invincea Labs), (March 2017 – December 2017)

- Realigned user interfaces with modern design implementations, separated monolithic code into separate and smaller services, and reorganized research project development efforts into production-ready software
- Actualized concepts into software components while following software development life cycle best practices
 - Conceived features and design concepts, constructed high fidelity designs, and integrated user experience research
 - Contributed to software architecture discussions, documented API contracts, and ideated on software prototypes
 - Engineered multiple features including sequence matching algorithms in Python, file system user interfaces in angular.js, and system diagnostic tools across the application stack
- Researched IETF RFC specifications for information about Internet protocols, guided a small team of interns, and learned basic knowledge of Docker, machine learning, and programming language theory
- Improved branding materials, designed detailed style guides, explored user experience concepts, and tested user interface layouts with the Adobe Suite

Senior UX Engineer, Novetta, (October 2016 – March 2017)

- Enhanced the user experience engineering of Novetta's advanced analytics in the domains of cyber, mission, and entity-centric data via advanced user interfaces, prototypes, and complex data visualizations
- Collaborated with over five teams in Novetta's Product and Technology division to implement both optimized workflows and product design specifications
- Conducted user interviews and generated a 15-page user experience report emphasizing the major areas of improvement for Novetta's cyber product (NCA)

UI Software Developer, Novetta, (July 2015 – October 2016)

- Lead user interface maintenance and improvement efforts related to the cyber analytic product which include enhanced user experiences, code quality improvements, and the addition of modern tech like react.js, Babel, and ES6
- Extended core functionality of the cyber analytic product with additional JavaScript microservices built with Webpack

JavaScript UI Engineer, DrFirst, Inc., (January 2015 – July 2015)

- Steered the development of several modern (Web 2.0) and responsive angular.js applications while detecting mobile (iOS and Android, specifically) clients by implementing Yeoman, Ionic, NPM, Bower, and other technologies
- Performed routine maintenance and enhancements of the administrative application (ember.js) which includes improvements to the UI/UX of secure HIPAA compliant messaging, auditing, and archiving

Java Developer, InfoZen, Inc., (April 2014 – October 2014)

- Generated complex data visualizations with front-end JavaScript technologies such as D3.js, jQuery, jQuery UI, and angular.js
- Conceived dynamic dashboards, responsive design patterns, aesthetically pleasing layouts, clear user interfaces, and friendly user experiences which display insightful business analysis and reporting from the usage of Java, Mongo, Groovy, Grails, Hibernate, HTML5, CSS3, Bootstrap, and JavaScript

Senior UI/UX Developer, Artech Government Services, LLC., (August 2013 – April 2014)

- Implemented agile techniques on 7-person team practicing SCRUM with test-driven software development (TDD)
- Designed and developed frameworks and a modular user interface design while leveraging front-end web technologies including Java, Groovy, Grails, JavaScript, HTML/CSS as a sub-contractor for InfoZen in Bethesda, MD