

# Nathaniel Buechler

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**Languages:** HTML5 (8 years), CSS3 (8 years), JavaScript/ES6+ (7 years), Python (5 years), Java (2 years)

## **Technologies:**

**JavaScript** - react.js, flux, redux, Angular (2, 4, 5, 6), MEAN.js, express.js, angular.js, node.js, Ionic, meteor.js, ember.js, moustache.js, handlebars.js, knockout.js, jQuery, jQuery UI, AJAX, jQuery Mobile, D3.js, dc.js, nv.d3, crossfilter.js, Jasmine, Mocha, Jest, Karma, NPM, Bower, Babel, Grunt, Yeoman, Webpack

**Python** - Pandas, Jupyter Notebook, Scrapy, Flask, Django, Tornado, NLTK, NumPy, Matplotlib, pip

**Other** - Android, Maven, Gradle, J2EE, Grails, JUnit, JSP, GSP, AWS (EC2 CodeDeploy, S3, Route 53, IAM, etc), Travis CI, Heroku, MongoDB, SQL Databases, Neo4j, Cucumber, Gherkin, XML, JSON, CSV, MVC, REST

**Tools:** Atom, Brackets, Postman, Android Studio, Spring Tool Suite, Eclipse, Git, Subversion, Nginx, Tomcat, Apache, Ant, VirtualBox, Adobe Suite (Experience Design, Photoshop, Illustrator, InDesign, Dreamweaver)

## **Experience:**

### **Owner, Alpha Nexus Technologies LLC, Front Royal, VA, (December 2017 – Present)**

- Built an advanced product development startup while continuing to assist clients in the DC area (ongoing)
- Established data science pipelines which process, analyze, and identify social patterns across thousands of websites
  - Processed each website with Scrapy, targeted the HTML response body, and parsed it with NLTK
  - Stored intermediate DataFrames in the analysis pipelines with Pandas and graphed results with Matplotlib
  - Captured social and affective data and ultimately saved the data as JSON/CSV files and MongoDB records
  - Prototyped pipelines with Jupyter Notebooks before finalizing code into Python packages and/or Flask applications
- Lead user experience design activities and contributed to user interface engineering for clients' products and efforts
  - Focused on user-centered design with empathy maps, user personas, journey maps, user stories, etc.
  - Built advanced user interfaces from concept to product while making use of Adobe tools (XD, Photoshop, etc.) and modern JavaScript (Angular, React)
  - Contributed UI/UX expertise to modern enterprise and government level background investigation software
  - Cooperated with various teams and acted as a technical representative for the client in tech proposal bids
- Engineered and architected a microservice application, called Affect Nexus, which includes programming languages and paradigms traversing the full stack of a software application
  - Developed an Android mobile application written in Java with Android Studio, deployed internationally, and available on the Google Play store
  - Created a JavaScript front-end React/Redux application with Webpack and NPM written with ES6 modules
  - Engineered two Express/Node ES5 JavaScript middleware applications where one handles authentication/verification with JWT tokens, whereas the other manages user information via MongoDB
  - Structured two Flask Python 3 applications where one handles and returns JSON via the main business logic for Affect Nexus, while the other manages data and stores it with MongoDB
  - Managed AWS EC2, Route 53, IAM, and CodeDeploy configurations to deploy and integrate the microservices with Travis CI and GitHub
  - Configured EC2 instances with Bash scripts, Nginx, and HTTPS encryption using "Let's Encrypt"
- Produced two additional microservice applications, called Role Nexus and Percept Nexus, with similar architectures to Affect Nexus, hosted in AWS and produced with a React/Python/Android technology stack

### **UI/UX Engineer and Product Designer, Consultant, Front Royal, VA, (August 2008 – Present)**

- Engineered data visualizations and advanced user interfaces with angular.js, ember.js, D3.js, MongoDB, and MEAN.js
- Produced advanced product concepts with the Adobe Creative Cloud while focusing on user-centered design
- Developed infrastructure for customer websites for multi-browser support (IE 6+, Firefox 3+, Chrome, Safari 3+)

### **Research Engineer, Two Six Labs (formerly Invoice Labs), Arlington, VA, (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, McLean, VA, (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, McLean, VA, (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., Rockville, MD, (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., Bethesda, MD, (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., Rockville, MD, (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

**Education:**

- Bachelor of Arts: Visual Arts – Graphic Design, University of Maryland: Baltimore County (UMBC), GPA 3.2
- Bachelor of Arts: Political Science, UMBC, GPA 3.2