

**BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors.  
Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: Brock Arnold

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Senior Software Developer

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Clarkson University	B.S.	05/2003	Computer Engineering

**A. Personal Statement**

I am a creative, experienced software developer, delivering innovative new software, adding functionality to existing software, and improving development processes at EcoHealth Alliance. In the past I have delivered these same results to multinational and SME SaaS companies, including a 10 year tenure with IBM, followed by software startup experience at two different companies. I have extensive experience in front and back end planning, design, and implementation, as well as user interface design. I have initiated software improvement and new application development projects to address undiscovered needs and carried the projects to completion. I approach each project as developer, designer, and user, and am excited to bring my expertise to the problem of managing scientific datasets and applying metadata.

Core technical competencies include: Java, C/ObjectiveC/C++, JavaScript, AngularJS, JQuery, iOS Development, OpenGL, RESTful principles, Mapbox/Leaflet mapping, Ionic Framework, and relational database design

**B. Positions and Honors****Positions and Employment**

2002	IBM Extreme Blue, Member of IBM's premier internship program
2003-2013	International Business Machines, Staff Software Engineer
2013-2014	Activate Networks, Inc, Senior Software Engineer
2014-2015	Cargotel/Primotus, Senior Software Engineer
2015-Current	EcoHealth Alliance, Senior Software Developer

**Other Experience and Professional Memberships**

2006-2009	Faculty Advisory Board Member, Worcester Polytechnic Institute, Faculty Diversity Advisory
2008-2013	IBM New England Diversity Council Board Member
2015	Member, American Indian Science and Engineering Society

## **C. Contribution to Science**

2015            Technical Lead, Global Rapid Identification Tool System development team. Global infectious disease outbreak warning software, designed to monitor online news articles, using natural language processing and machine learning techniques, for mentions of infectious disease threats. Developed in partnership with ProMED, the International Society for Infectious Disease, and Kitware.

## **D. Research Support**

As a Senior Software Engineer at Activate Networks, Inc., I architected, designed, and deployed SAAS applications that helped organizations across the country understand their social networks - utilizing technologies like MongoDB, Bootstrap, Handlebars, JQuery, Grunt, Node.js, AWS, Java, as well as numerous other open source frameworks. This work is based on the social-science research by recognized leaders in network science, including Professor Nicholas Christakis, MD, PhD, MPH, of Yale University (formerly, of Harvard University); Professor James Fowler, PhD, of UC San Diego; and Professor Rob Cross, DBA, of the University of Virginia.

As a Senior Software Engineer at a Baltimore, Maryland based stealth startup, I helped architect and plan the release of a new enterprise scale user mobile workflow platform that uses AngularJS, Jade templates, Less, Grunt, Gulp, Leaflet/Mapbox, Bootstrap, and a RESTful API provided by a Scala backend. I also was instrumental in designing and implementing a new hybrid mobile application using the Ionic Framework and Cordova plugins for forms based user generated content submission.

As a Staff Software Engineer working on IBM's SmartCloud SaaS platform, I discovered a flaw that would overwhelm our entire platform, losing critical customer data, during the initial onboarding of a large enterprise client's system just 2 days before the client was to go live. Thinking outside the box, and within a very small window of time, I architected and delivered a custom monitoring and throttling mechanism that addressed this critical flaw. The client successfully onboarded and provisioned over 200,000 users successfully and on time.

I founded Longhouse Interactive LLC, and Sweet Zo's, Inc, both boutique mobile app development companies. A successful concrete ready-mix operation in Northern NY is currently the launch customer of a custom truck tracking and routing application from Sweet Zo's. This application enables rapid turnaround at the central batch plant to enable quick, efficient, and accurate delivery of material to clients while reducing driver error and improving customer satisfaction.

As a personal research project, I wrote a custom real time stock trading application against the Interactive Brokers Java API, and initiated a paper trading simulation. The simulation tracked all last trade information for all members of the S&P 500 and executed trades based on signals generated by a custom algorithm. The trading algorithm was generated and refined by utilizing a genetic algorithm using JGAP (Java Genetic Algorithms Package) which provided basic genetic mechanisms that applied evolutionary principles to the problem set.