

Brian Miles

CONTACT	selimnairb@gmail.com https://github.com/selimnairb/
EDUCATION	Ph.D. Physical Geography (2014) University of North Carolina at Chapel Hill M.S. Natural Resources, Environmental Thought & Culture (2008) Rubenstein School of Environment & Natural Resources, University of Vermont B.S. Information and Decision Systems (2001) Carnegie Mellon University
SKILLS	<ul style="list-style-type: none">- Programming languages (current): Java, Python- Programming languages (past): C/C++, JavaScript, Perl, Visual Basic, C#;- Cloud: Azure, AWS;- IoT: OGC SensorThings API;- GIS programming: GRASS GIS, GDAL/OGR, OGC WCS and WFS;- GIS: GRASS GIS, QGIS, ArcGIS, Whitebox GAT;- Environmental: Air quality monitoring; rainfall-runoff modeling;- Software engineering: TDD/BDD, Git, CI/CD;- DevOps: Configuration and use of Docker containers;- Web (current): Spring Boot, REST, microservices architecture, Angular.io;- Web (past): Django, OAuth, Java Servlet, JSP, ASP, Perl CGI, PHP, Rails;- Mobile: iOS development with Swift;- Databases: PostgreSQL/PostGIS, Cassandra, SQLite/Spatialite, Oracle;- Data analysis tools: matplotlib, pandas, NumPy, R, MATLAB; and- Distributed computing: JMS, Azure Service Bus, iRODS, LSF, PBS/TORQUE, SLURM, ØMQ, Google Protocol Buffers.
EMPLOYMENT	Director, Consulting CGI Federal Inc. May 2018 – Present Lafayette, LA <ul style="list-style-type: none">- Technical lead for team of 15 software developers and testers using Scaled Agile Framework (SAFe) methodology to develop Java microservices for a leading commercial satellite remote sensing company;- Technical lead for Lafayette Engagement and Research Network (LEaRN) air quality sensor IoT deployment project in collaboration with Lafayette Consolidated Government, University of Louisiana at Lafayette, and Lafayette Public Schools;- Develop Python-based sensor firmware platform for Raspberry Pi-based computers: https://github.com/learnlafayette/sensors; and- Editor of OGC SensorThings API Part 2 - Tasking Core: https://www.openeospatial.org/standards/sensorthings

Brian Miles

EMPLOYMENT
(CONT'D)

Senior Consultant
May 2017 – May 2018

CGI Federal Inc.
Lafayette, LA

- Technical lead for LEaRN air quality sensor IoT deployment project;
- Contribute code to Fraunhofer IOSB FROST SensorThings API server;
- Develop Kinota Big Data an open source, NoSQL partial implementation of OGC SensorThings standard;
- Develop iOS application for U.S. EPA Office of Water Integrated Watershed Network (IWN) initiative; and
- Mentor junior software developers.

Consultant
April 2016 – May 2017

CGI Federal Inc.
Fairfax, VA / Lafayette, LA

- Develop J2EE applications for U.S. EPA Central Data Exchange (CDX);
- Lead transition from SVN to Git;
- Pilot CI/CD pipeline implementation using Bamboo; and
- Mentor junior software developers.

Research Scientist
November 2014 – April 2016

Institute for the Environment
University of North Carolina at
Chapel Hill

- System architecture and software engineering for NSF-funded HydroShare project;
- Co-PI for NSF-funded project “Interoperating CyberGIS and HydroShare for Integrated Food, Energy and Water Research”;
- System architecture, project management, and back-end software engineering of web-based decision support system for NSF-funded CyberSEES project “A New Framework for Crowd-Sourced Green Infrastructure Design”; and
- Testing and software engineering of RHESys ecohydrology model.

Graduate Research Assistant
August 2010 – November 2014

Department of Geography
University of North Carolina at
Chapel Hill

- Work under the direction of Dr. Lawrence E. Band on applications of the Regional Hydro-Ecologic Simulation System (RHESys) to urban catchments in Baltimore, MD and Durham, NC;
- Develop ecohydrology data acquisition and preparation workflow tools using iRODS data grid as part of NSF-funded EarthCube project; and
- Acquire geospatial data from municipal sources for integration with numerical ecohydrology models.

Brian Miles

EMPLOYMENT
(CONT'D)

Wind Energy Extension Specialist **North Carolina Solar Center**
September 2008 – July 2010 **NC State University**

Coordinate Solar Center's Coastal Wind Initiative:

- Provide technical assistance to NC Environmental Management Commission regarding state-wide wind permitting legislation;
- Organize, with NC Dept. of Commerce, NC exhibition and business breakfast at AWEA Windpower conference, raising over \$15,000 from NC-based and international business sponsors; and
- Manage field collection of wind data at four sites in coastal NC.

Graduate Research Assistant **Rubenstein School of**
August 2005 – September 2008 **Environment and Natural**
 Resources
 The University of Vermont

Work under the direction of Dr. Austin Troy on an agent-based land use model of Chittenden County, Vermont:

- Debug and customized UrbanSim, an agent-based land use model;
- Assist with QA/QC of geospatial demographic and infrastructure data used as input to land use model;
- Integrate land use model with TransCAD transportation model; and
- Develop custom software tools for managing model output data.

Research Systems Programmer **Computing Services**
June 2001 – July 2005 **Carnegie Mellon University**
 Pittsburgh, Pennsylvania

- Design and implemented web applications;
- Manage project to extend web services to a new campus in Qatar;
- Participate in the evaluation, selection, and implementation of a campus-wide web portal; and
- Lead programmer for campus-wide event calendar system.