

Jeffrey L. Hubbs
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Energy Policy, Advocacy, & Technology • Information Technology • Mathematical Modeling

Work History

Senior Research Associate, Georgia Tech School of Public Policy (Jun 2019-Aug 2020 expected):

Appointment with Drawdown Georgia, a project sponsored by the Ray C. Anderson Foundation to evaluate statewide greenhouse gas emission reduction proposals. Developed inventory/emissions model of high-global-warming-potential refrigerants in Georgia using data from EIA RECS, CBECS, and SEDS and GA Dept. of Revenue. Utilizes a local instance of EIA's National Energy Modeling System (NEMS) to generate estimates of Georgia's future energy product demands under reference and alternative scenarios. Wrote code to pull NEMS output time series directly into R. Ported SEDS, RECS, NOAA's Global Historical Climate Network Daily, and UGA's Georgia Land Use Trends databases to PostgreSQL. Performed state-scale analyses of reforestation and solar water heater deployments to reach 1 MtCO₂/yr consideration threshold. Prepares project quarterly reports.

Consultant, Emory University, Goizueta Business School (via Robert Half Technology, Aug 2017-Sep

2018): Coordinated computing resources and operations for the Business School's new MS of Business Analytics program featuring "big data" coursework. Instituted and managed Apache Hadoop/Spark cluster with automatic worker node configuration. Prepared/taught 3-hour session on R for new students. Created virtual machine packages for student use. Managed Amazon Web Services products including EC2, S3, and EMR in an organizational billing environment; monitored usage and wrote EC2/EMR usage tracker in Python.

Senior Research Associate, Georgia Tech School of Public Policy (2014-2016): Established and managed laboratory's NEMS software and platform; investigated policy scenarios via code and input data changes. Derived degree day maps from 350GiB Oak Ridge National Laboratory climate model dataset; combined maps with original state population trendlines to generate replacement GT-NEMS input table. Developed methodology and technique to estimate commercial building energy consumption for GT's Strategic Energy Initiative; ported EIA CBECS database into PostgreSQL and used SQL queries assembled in R to pull selected records into data objects for predictive analysis. Assisted with the development of an electric utility financial modeling tool.

Consultant/Owner, Jeffrey L. Hubbs Enterprises LLC (Feb 2014-Present): Developed interface between IIS VantagePoint and any R data visualization for Intelligent Information Services. For Georgia Tech: same as above.

Graduate Research Assistant, Georgia Tech School of Public Policy (May-Aug 2012, Jan-Aug 2013):

Responsible for installing and managing GT-NEMS; coordination of server procurement and hosting.

Teaching Assistant, Georgia Tech College of Computing (Aug-Dec 2012):

Attended ethics class sessions; lectured in instructor's absence; graded essay assignments and midterm and final exams; provided written feedback to students; took attendance; maintained records; answered student questions.

Senior IT Support Professional, College of Computing (Jun-Nov 2011): Management of tape backup library operations; automated Linux system provisioning; expanded 24-node cluster, adding nVidia Tesla GPU hardware, drivers, and libraries. Automated mail listserv population from Oracle/LDAP in Python.

Senior Systems Administrator, Community Loans of America (2008-2011): Design, deployment, and management of systems and software for nationwide financial services company. Created and administered new Linux-based enterprise file services. Designed and built replacement for 2000-device print server operation.

Contract Consultant, Transcore (2007-2008): Team member planning and executing data center migration.

Consultant/Owner, Jeffrey L. Hubbs Enterprises LLC (2001-2008): Clients included CDC, DB Consulting Group, Atlanta Public Schools, Brighton-Best Socket Screw Manufacturing, US Micro (IT equipment resellers).

Dialog Medical (2005-2006): Development and implementation of software used by 162 US Department of Veterans Affairs hospitals. Developed and documented a Python/PostgreSQL toolset to cross-reference text elements within a two-million-word consent form library for \$47K in translation savings.

Consultant, DB Consulting Group (2003): Prepared workshops for a CDC management council on performance appraisal issues and delegation of responsibilities; invented graphical method for identifying appraisal element misalignment; deployed and managed Linux file server for all local staff.

Program Manager, NIIT USA (1999-2001): Administered US General Services Administration contract for IT services; led project to develop and launch a B2B client's Web application; developed project plan and design for a distributed litigation support document management system with 10TiB design capacity.

Technical Support and Computer Operations Manager, Tower Group International (1998-1999): Responsible for 300-user app and Alpha/OpenVMS platform generating \$43M annual revenue; supervised three direct reports; coordinated UPS replacement and installation of new Alpha/OpenVMS application server and SAN.

Electronics Engineer, US Department of Energy, Savannah River Operations Office (1992-1998): Program management for Federal agency field office; oversight and analysis of \$65M/year contractor IT operation; coordinator for Help Desk contract.

Electronics Engineer, US Air Force, Robins Air Logistics Center (1986-1992): Managed all data center operations serving ~100 logistics staff across multiple programs; engineering support for avionics systems.

Additional Research

Extended commercial building energy consumption estimation work (SQL/R) by developing calibration process for ORNL climate model temperature predictions (NetCDF-format rasters) using historical NOAA weather data. Produced a dynamic mathematical model of regional-scale electromechanical storage for renewable electricity. Developed novel graphical technique for analyzing energy apportionment in renewable action plans.

Education

Master of Science of Public Policy, Georgia Tech; Bachelor of Electrical Engineering and Computer Engineering Certificate, Georgia Tech; The McCallie School, Chattanooga, TN

Selected Computing Knowledge

Python; R/RStudio; Apache Hadoop, Spark, Guacamole, and Tomcat; PostgreSQL; ArcGIS; Quantum GIS; LibreOffice; MS Office; Linux-based servers, desktops, laptops, clusters, and thin client environments; data centers and operations

Training

Emory LGBT "Safe Space" seminar; Software Development Effort Estimation; Introduction to Oracle; Creating High-Performance Teams; Personnel Interviewing and Selection; SAP R/3 Overview and Basis Technology; Evaluating Contractor Performance; Total Quality Management; Ethics for Federal Employees

Awards

Performance Award for technical excellence (1991, USAF); Awards for Special Act or Service for participation in business re-organization committee and for contract management system implementation (DOE, 1998)

Publications

"Machine Learning Approaches to Estimating Commercial Building Energy Consumption," C. Robinson, B. Dilikina, J. Hubbs, W. Zhang, S. Guhathakurta, M.A. Brown, R.M. Pendyala (*Applied Energy*, Oct 2017)

Volunteering

Regular panelist in DragonCon Science, Space, Robotics/Maker, and Apocalypse Rising Tracks (2013-2019); 500 Songs For Kids charity concert performer (2016); orchestra manager and percussion/keyboards for a community theater production of *Cats* (2007)