

**William T. Gustafson**

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Seattle, Washington 98103**

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**(206) 545-0706**

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**Experience:**

*2013-present*   **Vaisala**   Seattle, WA

Scientific Software Engineer, Energy Offering Development.

Primary responsibility for implementing algorithms (Python, C, Ruby) to produce daily solar reconciliation product based on global irradiance map and hourly time series data product. Maps and time series based on images from GOES, MTSAT, GMS, Himawari and Meteosat series of geosynchronous weather satellites taken between January 1997 and the current time.

*2012-2013*   **The Climate Corporation**   Seattle, WA

Physical Observations Engineer, Platform/Data Acquisitions Group

Responsible for evaluating, selecting, and ingesting weather, soil, land surface model and geographic datasets. Responsible for operational updating of internal versions of recurring weather datasets. Responsible for merging multiple CONUS-wide datasets (soil, precipitation, and field level shapefiles) into a single dataset used throughout the company for modeling and sales. Evaluated and implemented processing technique for soil data. Developed processes for evaluating model input, including developing a tool for automated dataset extraction of the Landsat TM, and NASS cropland data for given shapefiles. Created visualizations for QC and data analysis.

*2007-2012*   **3TIER**   Seattle, WA

Scientific Programmer, Software Development Group.

Primary responsibility for implementing algorithms (C, Ruby) to produce global irradiance map and hourly time series data product based on images from GOES, MTSAT, GMS, and Meteosat series of geosynchronous weather satellites taken between January 1997 and the current time. Assisted in algorithm development for irradiance map including producing timeseries dataset of atmospheric turbidity based on inputs from MODIS instrument. Wrote application (Ruby) and library (C) for solar forecasting based on numerical weather prediction model output. Wrote application to process numerical weather prediction model output for subsequent data extraction.

*2005-2007*   **University of Washington**   Seattle, WA

Senior Computer Specialist, Pacific Northwest Seismic Network.

Responsible for development and maintenance of software used by the Network and its researchers. Developed application programs (C, Matlab), and high-level scripting language programs (C and Bourne shell scripting) for seismological data collection and archiving. Maintained and supported applications (Java, Perl, Mysql) for creating web pages of seismic shaking, and equipment inventory. Provided computer support and system administration for Solaris and Linux systems.

Continued on page 2

## **William T. Gustafson, resume, page 2**

### **Experience (continued):**

1993-2007 **University of Washington** Seattle, WA

Research Engineer, UW Keck Remote Sensing Laboratory.

Responsible for software development of standard product algorithms for the ASTER (Advanced Spaceborne Thermal Emission and Reflection Radiometer) instrument aboard the Terra satellite as part of the Earth Observing System. Conducted research into remote sensing applications of the ASTER instrument, SEBASS hyperspectral thermal imager, the AVHRR (Advanced Very High Resolution Radiometer) instrument, Landsat TM and MSS, SIR-C and AIRSAR radar. Developed MPI code for multi-processor Beowulf clusters for NASA's REE project, and for use with Matlab Compiler application for high-resolution LIDAR imagery. Developed application programs (C, IDL), and high-level scripting language programs (python, perl, IDL) for remote sensing research applications. Developed MS Windows, and Windows NT image processing software for remote sensing applications. Wrote routing model for hydrological modeling of Amazon River Basin. Provided computer support and system administration for IBM PC's, Macintosh, and Unix systems. Provided maintenance, trouble-shooting and hardware support for various field instrumentation.

1989-1993 **QUEST Integrated Inc.** Kent, WA

Engineer, Software and Electronics Development.

Developed hardware and software for a variety of instrumentation applications.

1989-1993 **448th Civil Affairs Battalion, USAR** Ft Lewis, WA

Intelligence Staff Officer (S-2).

### **Education:**

**University of Washington, MSE, August 1996. GPA: 3.7**

Thesis: Land-form classification of SIR-C radar images based on radar scattering components. Coursework included Geophysical Data Analysis, Geophysical Inverse Theory, Image Interpretation, Microwave Measurement Techniques, Geologic Remote Sensing, Electromagnetic Theory and Applications.

**California Institute of Technology, BSEE, June 1987. GPA: 3.4**

Standard engineering coursework including Physics of Remote Sensing.

### **Skills:**

Fluent in C, Ruby, Python, shell scripting and IDL (Interactive Data Language). Maintenance level experience with Clojure, Cascalog, C++, Java, and Perl. Linux System administration experience.

Application program experience: C and C++ program development tools (Gnu C compiler, git, gerrit), IDL/ENVI, Matlab, Gnuplot, Ncview, OGR/GDAL, QGIS.