Anthony M. Cavallaro

Software Architect

STi | Sonoma Technology

Mr. Cavallaro joined STI in 2011. His primary duties include designing and developing web-based software applications and providing operational support and monitoring.

Mr. Cavallaro is the lead software engineer and architect for the BlueSky Cloud. BlueSky Cloud is a website that STI created for the USDA Forest Service's AirFire team. It is used for dynamically scheduling pre-defined and user-customized BlueSky Framework (BSF) runs. BlueSky accomplishes this dynamic scheduling by using Amazon Elastic Compute Cloud (Amazon EC2), which is a cloud computing service provided by Amazon Web Services (AWS). Mr. Cavallaro's duties included developing the web interface and programmatically establishing the behind-the-scenes communications between the website, BSF, and Amazon EC2.

Mr. Cavallaro is also the lead software engineer for the BlueSky Playground website for the USDA Forest Service AirFire team and the BlueSky Playground Canada website for the University of British Columbia (UBC). He is in charge of implementing key new features, applying improvements to the user interface, and overseeing operational maintenance and support.

Education

BS, Computer Science, *cum laude* with distinction, Sonoma State University

For a list of publications, see
sonomatech.com/ResPub/AMCpub.pdf.

In addition to those websites, Mr. Cavallaro has contributed to a number of other projects at STI. He developed critical modeling and reporting pathways for the Interagency Fuels Treatment Decision Support System (IFTDSS) website, and implemented upgrades to polygon data rendering for IFTDSS's numerous OpenLayers maps. He developed the KML Module for the BlueSky Framework, which takes NetCDF output data produced by the Hybrid Single-Particle Lagrangian Integrated Trajectory (HYSPLIT) model and displays the $PM_{2.5}$ concentration cloud as a Google Earth map overlay. He has also provided assistance to the development and performance testing of the Statistics-based Spatial Data Quality Control (SDQC) module for Vaisala.

Mr. Cavallaro is proficient in a variety of programming languages and frameworks, including Python, Java, C++, HTML, PHP, JavaScript, AJAX, CSS, JSON, XML, KML, JSP, Objective C, ColdFusion, and x86 Assembly. He also has experience using various tools and technologies, including the PostgreSQL relational database system, the MongoDB document database, Apache and Tomcat web servers, Django and Stripes web frameworks, the OpenLayers mapping framework, the Amazon Elastic Compute Cloud (Amazon EC2) service, and productivity-enhancing software, such as JIRA (issue tracker), Jenkins (continuous integration), Subversion (versioning/revision control), and SonarQube (continuous inspection).