

# Position Description

## SOFTWARE ENGINEER

### Location

Montpelier, Vermont

### Reporting Relationship

This person will report to the Geospatial and Data Solutions Service Line Leader

### Position Summary

Stone Environmental, Inc. is seeking an experienced and motivated individual to fill a position as a Software Engineer, where their responsibilities will include system administration, DevOps, and middleware / back-end software development, with a focus on web applications for environmental quality modeling.

The primary responsibility for the position will be supporting software that integrates agricultural/environmental modeling and optimization with web-based user interfaces and Big Data to facilitate custom workflows. These web-based systems create inputs for, manage the running of, and report on the outputs of agricultural models such as the APEX farm-scale model, for the purpose of quantifying the benefits of conservation practice implementation aimed at improving water quality, promoting sustainable farming, and reducing greenhouse gas emissions.

A core part of these systems is automation of the execution of models like APEX which is a Fortran model provided to us as a Linux binary. Successful automation of this has required familiarity with Linux shell scripting (in Bash), Python, and Docker. Creation of the Docker images has required knowledge of how to install and setup a Linux-based OS and configure the versions of software on it through package management, as well as custom-compile particular libraries needed to support the Fortran executable.

The successful applicant will be skilled both as a middleware and back-end developer. This person hired will be responsible for managing Linux based servers running the system's various components including the front-end hosted from a Linux server running Apache, and the API and middleware written in NodeJS and JavaScript, run as Linux services. All the software runs on virtual machines and Docker containers hosted on Amazon EC2 and ECS, which the applicant must be comfortable troubleshooting.

The system's database is PostgreSQL which the successful applicant must be able to install, configure, maintain, and troubleshoot. While maintaining and developing the web front-end code is not a core responsibility, the applicant should be able to understand the full architecture of the system and make improvements to it for stability and efficiency.

The ideal candidate works well both as part of a team and independently and will bring enthusiasm and dedication to producing outstanding software products and services. Because the project requires some specialized technical capabilities, the candidate must be able to clearly communicate about technical complexity to members of the team who are not deeply familiar with all parts of the technology.

## Technical Skills

- Application Architecture / Service Oriented Architecture
- Software Engineering
- JavaScript
- NodeJS
- Restify (ideally) or Express
- GIT
- UNIX Shell scripting
- PostgreSQL maintenance/admin
- PGSQl capability a big plus
- Occasional use of PSQL, PGSQl2SHP, PostGIS
- Docker
- Python 3
- Documentation
- Linux
- OS install/config
- Custom compile libraries (using make, configure, etc.)
- Server setup
- Apache configuration
- ArcGIS Server / ArcSDE (Linux)
- ArcGIS Pro capability a plus
- AWS (Amazon Web Services) EC2, VPC, EBS, S3

## Desirable Skills but not Required

- Aptitude and/or interest in applying environmental models for use in quantifying sustainable agricultural practice benefits to environmental quality and climate change mitigation
- Familiarity with spatial datasets used in environmental analysis
- Experience integrating Big Data in web applications
- Data management

## Experience and Education

- B.S. or M.S. in software engineering or something closely related to software engineering
- Five to ten years of relevant experience in the skill areas described above are required

Starting pay will be determined at the time of offer based on the experience, education, and training of the successful candidate

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## How to Apply

Please visit our careers page on our company website at [www.stone-env.com](http://www.stone-env.com) to apply online.

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Stone is 100% employee-owned environmental science, engineering, and consulting firm located in Montpelier, Vermont, with remote offices in Missouri, Austria, and Germany. Founded in 1992, our mission is to provide tools, information, and analyses to help our clients solve environmental challenges with integrity, expertise, and innovation. We bring together over 50 scientists, engineers, and foundation staff with diverse backgrounds and skills—and a shared commitment to excellence, creativity, and accountability through employee ownership.

Since 2016, Stone's employee-owners have taken a direct stake in the value and health of the company through an Employee Stock Ownership Plan (ESOP). This unique ownership and management model is a powerful motivator that inspires close cross-department collaboration and company-wide unity. Stone has an excellent compensation package, including competitive pay; health, dental, and vision insurance; 401K with company match; ESOP benefit; paid time off; and flexible holidays.

But what really sets us apart—and makes employee-owners want to stay at Stone—is our culture, the interesting and meaningful work we do, and the inspiring, dedicated people we work with. Stone has a progressive culture—from open communication, transparent leadership, and the freedom to explore one's passions—to its commitment to giving back to the community and a firm “work hard, play hard” mentality. Simply put, it is one of the best places to work and why were voted a top place to work in Vermont for the last four years.



Stone is proud to be an equal opportunity and affirmative action employer. We are committed to diversity and inclusion throughout all aspects of employment. The decision to hire, promote, discipline or discharge is based on merit, competence, performance, and business needs. We do not discriminate on the basis of race, color, religion, marital status, age, national origin, ancestry, physical or mental disability, medical condition, pregnancy, genetic information, gender, sexual orientation, gender identity or expression, veteran status, or any other status that is a protected category under federal, state, or Vermont law. Our employee-owners have taken an active role in ensuring our team is diverse in its composition, equitable in its practices, and promotes an inclusive culture.