Urban Conflagration Modeling Engineer

Boston, MA, USA
Full-time
Verisk Business: Extreme Event Solutions

Company Description

We help the world see new possibilities and inspire change for better tomorrows. Our analytic solutions bridge content, data, and analytics to help business, people, and society become stronger, more resilient, and sustainable.

Job Description

About the Role

Verisk Extreme Event Solutions (previously AIR Worldwide), a member of Verisk Analytics, is the scientific leader and most respected provider of risk modeling software and consulting services. Verisk Extreme Event Solutions founded the catastrophe modeling industry in 1987 and today models the risk from natural catastrophes, terrorism, and pandemic outbreaks in 90 countries. Verisk Extreme Event Solutions offers the opportunity to work with advanced technologies, global clients, and hundreds of the most innovative, talented minds in the industry. This role is based in our Boston location which offers a flexible hybrid work model.

As an urban conflagration modeling engineer, the primary responsibility will be studying how fires could start, spread, and be suppressed after an earthquake and their impact on built environment and human beings. Your role will include running large-scale simulations, processing and analyzing extensive datasets, and support the translation of research outcomes into financial loss estimates for large insurance portfolios.

A successful candidate should have a strong technical background in science, engineering, or mathematics, have passion and desire to learn, and is expected to be a highly motivated, detail oriented, well organized, self-directed, and excellent team player. As a researcher at VERISK, the nature of our work varies from month to month and year to year, and you will have constant opportunities to learn and grow expertise in new areas.

About the Day-to-Day Responsibilities of the Role

- Assist in improve fire-spread and suppression modeling to accurately reflect real-world scenarios such as urban conflagration
- Code algorithm and model in C++ to enhance fire-spreading simulation capabilities
- Process simulation outputs and large experimental dataset, performing statistical analysis to validate model components and overall performance
- Run large-scale simulations on AWS and manage cloud-based computational resources efficiently
- Perform data acquisition, including post-event survey, and analyze data to understand fire ignition, spreading, suppression across different built environment such as residential, commercial, industrial and

infrastructural areas
- Collaborate with senior engineers and researchers to assess and refine model results
- Present findings and models to technical and non-technical audiences, and provide support to clients and staff as needed
- Contribute to technical writing for internal and external publications

Qualifications

- MS with 2+ years of relevant experience or PhD in fields related to fire spread simulation such as fire engineering or similar
- Proficiency in C++ programming and experience with data analysis tools such as Python, R, Matlab or others
- Experience in large-scale computational simulations, preferably with knowledge of AWS or other cloud computing platforms
- Familiar with probabilistic and stochastic risk assessment and modeling is a plus
- Strong analytical and problem-solving skills, with an attention to detail
- Excellent written and verbal communication skills
- Ability to work in a team environment and contribute to various projects
- Experience with GIS applications (e.g., ArcGIS, QGIS), FDS and PyroSim is a plus

#LI-LM03
#LI-Hybrid

Additional Information

For over 50 years, Verisk has been the leading data analytics and technology partner to the global insurance industry by delivering value to our clients through expertise and scale. We empower communities and businesses to make better decisions on risk, faster.

At Verisk, you'll have the chance to use your voice and build a rewarding career that's as unique as you are, with work flexibility and the support, coaching, and training you need to succeed.

For the eighth consecutive year, Verisk is proudly recognized as a Great Place to Work® for outstanding workplace culture in the US, fourth consecutive year in the UK, Spain, and India, and second consecutive year in Poland. We value learning, caring and results and make inclusivity and diversity a top priority. In addition to our Great Place to Work® Certification, we've been recognized by The Wall Street Journal as one of the Best-Managed Companies and by Forbes as a World's Best Employer and Best Employer for Women, testaments to the value we place on workplace culture.

We're 7,000 people strong. We relentlessly and ethically pursue innovation. And we are looking for people like you to help us translate big data into big ideas. Join us and create an exceptional experience for yourself and a better tomorrow for future generations.

Verisk Businesses

Underwriting Solutions — provides underwriting and rating solutions for auto and property, general liability, and excess and surplus to assess and price risk with speed and precision

Claims Solutions — supports end-to-end claims handling with analytic and automation tools that streamline workflow, improve claims management, and support better customer experiences

Property Estimating Solutions — offers property estimation software and tools for professionals in estimating all phases of building and repair to make day-to-day workflows the most efficient

Extreme Event Solutions — provides risk modeling solutions to help individuals, businesses, and society become more resilient to extreme events.

Specialty Business Solutions — provides an integrated suite of software for full end-to-end management of insurance and reinsurance business, helping companies manage their businesses through efficiency, flexibility, and data governance

Marketing Solutions — delivers data and insights to improve the reach, timing, relevance, and compliance of every consumer engagement

Life Insurance Solutions – offers end-to-end, data insight-driven core capabilities for carriers, distribution, and direct customers across the entire policy lifecycle of life and annuities for both individual and group.

Verisk Maplecroft — provides intelligence on sustainability, resilience, and ESG, helping people, business, and societies become stronger

Verisk Analytics is an equal opportunity employer.

All members of the Verisk Analytics family of companies are equal opportunity employers. We consider all qualified applicants for employment without regard to race, religion, color, national origin, citizenship, sex, gender identity and/or expression, sexual orientation, veteran's status, age or disability. Verisk's minimum hiring age is 18 except in countries with a higher age limit subject to applicable law.

https://www.verisk.com/company/careers/

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