

**Postdoctoral Position
Optimization Under Uncertainty
at Brown University, Providence, RI**

I am seeking a postdoc to work on new predictive modeling and design technology. The primary aim is to develop high-performance PDE-constrained optimization methods for scientific and engineering applications. The secondary objective is to create new data-driven physical models to assist the above applications. The ideal candidate is a creative problem solver with fundamental knowledge spanning uncertainty quantification (UQ) and finite element analysis (FEA), with experience in scientific computing as evidenced by publications and codes. Aspects of the work will be conducted in collaboration with an external project team that includes specialists in topology optimization, stochastic optimization, high-performance computing, UQ, and FEA. The research projects at hand target adaptive stochastic optimization algorithms for risk-averse engineering design, nonlocal statistical models, and model validation with experimental measurements.

Required Qualifications:

- Ph.D. in applied mathematics or a related discipline
- Expertise in uncertainty quantification, finite element analysis
- Expertise in computational science and software development

Desired Qualifications:

- Experience using state-of-the-art machine learning tools in the physical sciences
- Knowledge and expertise in C++, and Python
- Experience in performing coordinated research
- Excellent interpersonal skills

To apply, email Prof. Brendan Keith (brendan_keith@brown.edu) with your CV and two reference letters.

**Postdoctoral Position
Scientific Machine Learning
at Brown University, Providence, RI**

I am seeking a postdoc to work on multi-agent reinforcement learning methods for adaptive mesh refinement. The aim is to develop an anticipatory adaptive mesh refinement paradigm for finite element simulations of hyperbolic flows. The ideal candidate is a creative problem solver with fundamental knowledge in machine learning (ML) and finite element analysis (FEA), with experience in scientific computing as evidenced by publications and codes. Aspects of the work will be conducted in collaboration with an external project team that includes specialists in ML, high-performance computing, and FEA.

Required Qualifications:

- Ph.D. in applied mathematics or a related discipline
- Expertise in finite element analysis and machine learning
- Expertise in computational science and software development

Desired Qualifications:

- Experience using state-of-the-art machine learning tools in the physical sciences
- Knowledge and expertise in C++, and Python
- Experience in performing coordinated research
- Excellent interpersonal skills

To apply, email Prof. Brendan Keith (brendan_keith@brown.edu) with your CV and two reference letters.