

**Faculty Name:**

Shanyin Tong

**Faculty Email:**

st3503@columbia.edu

**Lab:**

APAM

**Project Title:**

Iterative methods for optimization with rare events

**Description:**

This position requires an undergraduate student with coding experience to implement constrained optimization problems and importance sampling. During the project, the student and the mentor will derive the mathematical formula for iterative methods for optimization with rare events and implement the algorithms for specific application problems, including structure failure.

**Location of Research:**

Hybrid (both Remote and On-Site)

**# of hrs/week:**

40

**Department/Program:**

Applied Physics and Applied Mathematics

**Eligibility:**

Matlab, Julia, Python, linear algebra, optimization, sampling, PDE. BS, First Year, BS, Second Year, BS, Third Year, BS, Fourth Year, MS.

**To apply, please contact:**

Shanyin Tong, st3503@columbia.edu