

Michael Raba

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EDUCATION

University of Kentucky <i>M.Sc. Mechanical Engineering</i>	Spring 2025 <i>Lexington, KY</i>
University of Kentucky <i>B.A. Applied Mathematics</i>	Spring 2019 <i>Lexington, KY</i>

EXPERIENCE

Research Assistant, NSF <i>University of Maryland (PI: Prof. Christoph Brehm)</i> – Reduced Order Modeling of Moderate Reynolds Number Flows in a Rotating Pipe	Fall 2020 – 2023
Teaching Assistant, ANOVA and DOE Lab <i>University of Kentucky</i> – Guided students through lab equipment: wind tunnel, strain gage, beam deflection, LabView data acquisition	Spring 2023 <i>Lexington, KY</i>
TA for Thermodynamics II <i>University of Kentucky</i>	Fall 2020 <i>Lexington, KY</i>
TA for Fluid Mechanics I <i>University of Kentucky</i>	Spring 2018 <i>Lexington, KY</i>
Research Assistant, Aerospace Eng. Dept. <i>University of Kentucky</i> – Optimized air filter designs using STAR-CCM+; mesh refinement and Linux toolchain	Summer 2018 <i>Lexington, KY</i>

SKILLS

Parallel Computing: MPI, OpenMP (C++, Fortran2018, Julia, Python, MATLAB)

Languages & Libraries: C++ STL, Boost, Eigen, ISO C++, interfaces, caching/memoization

Interoperability: Python-C++-Fortran-Julia mixed stacks

Debugging/Profiling: Valgrind, GDB, VTune, TotalView, gprof/ftools

Tools: Git, CI/CD, Linux sysadmin (CentOS, Arch, Ubuntu)

Engineering Software: Ansys Workbench, STAR-CCM+, LabView

Math/Tech Topics: Signal Processing, ROM, Turbulence Theory, Matrix Methods