Artem Igorevich Yankov

2200 Fuller Court, Apt. 414B
Ann Arbor, MI 48105
yankovai@umich.edu
(401) 206-9133
https://sites.google.com/a/umich.edu/yankovai/
GitHub: https://github.com/yankovai

OBJECTIVE

A position that utilizes computational science and mathematical modeling to solve challenging, real-world problems in a stimulating and fast-paced environment.

EDUCATION

University of Michigan — Ann Arbor, MI
Ph.D Nuclear Engineering and Radiological Sciences — Expected 2014

Rose-Hulman Institute of Technology — Terre Haute, IN
B.S. Mathematics — May, 2010
B.S. Physics
Minor: Computational Science
Clarence P. Sousley Award for demonstration of exceptional performance in the mathematical sciences.

SKILLS

Programming Languages: Python, R, Fortran, SQL, Bash, LaTeX, Matlab
Libraries: Numpy, SciPy, matplotlib, scikit-learn, BeautifulSoup, pandas, ggplot2
Software: Maple, Minitab, Dakota, Tableau
Operating Systems: Unix, Windows, OS X
Machine Learning: MapReduce, Neural Networks, Logistic/Linear Regression, SVM

EXPERIENCE

Research Assistant — July 2010-present
University of Michigan, Department of Nuclear Engineering, Ann Arbor, MI

- Developing, analyzing, and applying novel techniques for the uncertainty quantification of computer models for nuclear reactor core simulation.
- Thesis work in the construction of surrogates for computer models with large numbers of correlated, stochastic inputs.
- Coupled software to apply uncertainty quantification techniques to time-dependent reactor simulations in a parallel computing environment.

Undergraduate Intern — Summer 2009
Idaho National Laboratory, Idaho Falls, ID

- Investigated effects of placing gas gap in irradiation capsule experiments at the Advanced Test Reactor.
- Used finite element analysis to obtain a uniform specimen temperature profile by adjusting gas gap parameters.
- Investigated the minimum size of coolant flow channel for design experiments needed to meet thermal-hydraulic safety requirements.

Research Experience for Undergraduates — Summer 2008
Brigham Young University, Department of Mathematics, Provo, UT

- Researched Lagrangian formulations of mechanics with designer conservation laws.

PUBLICATIONS

A. Yankov and T. Downar, "Application of Adaptive Hierarchical Sparse Grid Collocation to the Uncertainty Quantification of Nuclear Reactor Simulators," *International Conference on Mathematics and Computational Methods Applied to Nuclear Science and Engineering*, Sun Valley, Idaho, USA, May 5-9, 2013.

A. Yankov, B. Collins, M. Klein, et al., "A Two-Step Approach to Uncertainty Quantification of Core Simulators," *Science and Technology of Nuclear Installations*, vol. 2012, Article ID 767096, 9 pages, 2012. doi:10.1155/2012/767096.

A. Yankov, B. Collins, M. A. Jessee, et al., "A Generalized Adjoint Approach for Quantifying Reflector Assembly Discontinuity Factor Uncertainties," *Proc. PHYSOR 2012*, Knoxville, Tennessee, USA, April 1520 (2012).

- Won best student paper award.

A. Yankov, M. Klein, M. A. Jessee, et al., "Comparison of XSUSA and Two-Step Approaches for Full-Core Uncertainty Quantification," *Proc. PHYSOR 2012*, Knoxville, Tennessee, USA, April 1520 (2012).

CONFERENCES ATTENDED

Reduced Order Modeling in General Relativity — June, 2013
California Institute of Technology, Pasadena, CA

Mathematics and Computation — May, 2013
American Nuclear Society, Sun Valley, ID

Uncertainty Analysis in Best-Estimate Modeling — May, 2012
Karlsruhe Institute of Technology, Karlsruhe, Germany

PHYSOR Advances in Reactor Physics — April, 2012
Oak Ridge National Laboratory, Knoxville, TN

Modeling, Experimentation, and Validation School — July, 2011
Argonne National Laboratory, Argonne, IL

EXTRA-CURRICULAR ACTIVITIES

Tough Mudder 2012
Detroit Free Press Half-Marathon 2012
Ann Arbor Marathon 2013 (3:45)
Detroit Free Press Marathon 2013 (3:35)
Ann Arbor Parks and Recreation Ice Hockey
Predictive Analytics of Southeast Michigan Meetup Group
Blogging
Kaggle