Zhuoran Han

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EDUCATION

Massachusetts Institute of Technology **Cambridge, MA**
Ph.D. student in Nuclear Science and Engineering From Sep 2017

University of Michigan **Ann Arbor, MI**
Bachelor of Science in Engineering in Nuclear Engineering Sep 2015 – Apr 2017
GPA: 3.96 / 4.00

Shanghai Jiao Tong University **Shanghai, China**
Bachelor of Science in Engineering in Electrical and Computer Engineering Sep 2013 – Aug 2017
GPA: 3.51 / 4.00

Coursework: Reactor Theory, Thermal Hydraulics, Reactor Safety Analysis, Monte Carlo Methods, Reactor Dynamics, Data structures and Programming, Computer Organization, Electromagnetics, Signals and Systems

WORK EXPERIENCE

Massachusetts Institute of Technology **Cambridge, MA**
Research Assistant
Computational Reactor Physics Group From Sep 2017

Shanghai Nuclear Engineering Research and Design Institute **Shanghai, China**
Summer Intern
Reactor Core Design Group Jun 2017 – Aug 2017
- Conducted literature search on Space Reactor and documented a report to evaluate possibilities of creating a new project
- Analyzed the benchmark model C5G7-TD and searched for solutions to verify the SNERDI deterministic codes

University of Michigan **Ann Arbor, MI**
Research Assistant
The UM Branch of the Consortium for Advanced Simulation of Light Water Reactor Jun 2016 – Feb 2017
- Implemented different modules for MPACT codes with FORTRAN language
- Created suites of unit tests and regression tests to assure the quality of the source codes
- Refactored the previous codebase to support the additional features
- Co-authored paper 'Thermal Expansion Modeling Capability in VERA-CS' at ANS M&C 2017 conference

PROJECTS

Mobile Application Development for NESUKU Language Learning Platform **Shanghai, China**
Senior Design Project in Electrical and Computer Engineering May 2017 – Aug 2017
- Designed a mockup to illustrate the overall logic of the mobile application developments
- Implemented Front-End designs using the Ionic Framework to realize the file management functions

Very High Temperature Reactor with QUADRISO Fuel **Ann Arbor, MI**
Senior Design Project in Nuclear Engineering Jan 2017 – Apr 2017
- Designed a gas cooled core with QUADRISO fuel to improve fuel performance
- Performed neutronics analysis and applied thermal hydraulics calculation by nuclear codes like PARCS and SERPENT
- Evaluated the design in safety and economics to meet Gen IV standards

Validation of the Michigan Parallel Characteristics Transportation (MPACT) Codes **Ann Arbor, MI**
Independent Study Project in Nuclear Engineering Dec 2015 – Apr 2016
- Reviewed MPACT codes using the DIMPLE experimental benchmarks to validate the effectiveness
- Developed reactor models of other benchmarks performed at the DIMPLE facility to verify the consistency of MPACT
- Compared the MPACT results with SCALE results and analyzed the differences in a technical report

Modeling in Searching for a Lost Plane **Shanghai, China**
Mathematical Contest in Modeling Feb 2015
- Built a model to predicate drifting routes for the wreckages based on Monte Carlo Method
- Simulated the model by MATLAB and C++ Programs

SKILLS

- Programming: C/C++, MATLAB, FORTRAN, Python, Java Script, HTML/CSS
- Platforms: Linux, Windows, and Mac OS
- Nuclear Applications: PARCS, SERPENT, OpenMC, MPACT, PATHS, SAPHIRE, AGREE, RELAP5