Neal D. Nesbitt

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(832) 577-2072

Are you ready to do what it takes for better code, or do you shy away from every impact?
Strive for real, stable progress, and you will find my insights, resourcefulness, and determination an asset. I thrive in back-end development, and excel at learning and doing what is best for the task at hand.

If you've done something twice, script it the third time.

Work Experience

Sr. Software Developer
Feb. 2021 - Present

Hexagon PPM, Greater Huntsville, Alabama
CAD Software Company - Math, Geometry & Topology Libraries
- Streamlined repetitive tasks by creating and publicizing scripts
- Developed new tools allowing embedded attribute debugging of CAD models
- Initiated separate "unstable" DevOps repositories for safe, collaborative development
- Migrated libraries from Visual Studio projects to portable, modern CMake builds
- Enabled source control visibility of documentation by instigating format change

Technical Specialist
July 2014 - Aug. 2015

D. Nesbitt Associates, Greater Houston, Texas
Engineering Support Services
- Traveled on-site to support global steam blowing & chemical cleaning operations
- Helped standardize new industry tools with adaptive fabrication diagrams
- Designed and managed novel wastewater membrane R&D system

Blacksmith
Mar. 2010 - Feb. 2012

George Ranch Historical Park, Greater Houston, Texas
- Orchestrated public forging demonstrations for large crowds
- Initiated in-house charcoal production, mitigating fuel limitations

Education & Research

Math PhD Student
Sep. 2018 - March 2020

The University of Houston
Prelims - *Numerical Analysis, Probability*
Research - Authored C++ biochemical simulation libraries
Teaching Assistant (TA) - Ran multi-variable calculus recitations
SIAM Webmaster - Updated and maintained chapter's website

MS in Mathematics
Sep. 2015 - Aug. 2018

The University of Houston-Clear Lake
Finite Elements, Computational Physics, Electrodynamics
Research Assistant (RA) - Model Predictive Control, Algebra TA

BS in Mathematics
Sep. 2012 - May 2014

Houston Baptist University
Differential Geometry, Complex Variables, Real Variables

Skills

Development: Vim, Visual Studio, Markdown, Git, Terminals, Linux & Windows
Coding: C/C++, CMake/Make, Python, Scheme, Bash/Batch, MATLAB, LaTeX
Hobbies: Cooking, Climbing, Dance, T.Tennis, Shop-work, Model Railroads, Radio

Publications

Yipeng Yang and Neal Nesbitt. "Concise iterative algorithms on the state feedback form for model predictive control and stability analysis of discrete linear systems". In: *2017 IEEE Symposium Series on Computational Intelligence* (Honolulu, Hawaii, Nov. 27, 2017). IEEE, 2018, pp. 2130–2133. ISBN: 9781538627259

Neal David Nesbitt. "Fundamentals of axis-symmetric boundary reconstruction for ideal tokamak plasmas: Using toroidal harmonics to match poloidal flux measurements in the surrounding vacuum." MA thesis. The University of Houston-Clear Lake, 2018. ISBN: 978043841249