

Neal D. Nesbitt

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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

Software Developer
July 2022 - Present

Autodesk, Portland, Oregon

T-Splines - Smooth Form Modelling Libraries

- Ported CI/CD pipeline to declarative Jenkins, simplifying build and release procedure

Sr. Software Developer
Feb. 2021 - July 2022

Hexagon PPM, Huntsville, Alabama

CAD Software - Math, Geometry & Topology Libraries

- Independently developed tools allowing attribute debugging of CAD models in Scheme

- Migrated libraries from Windows dependent projects to portable, modern CMake builds

Technical Specialist
July 2014 - Aug. 2015

D. Nesbitt Associates, Houston, Texas

Engineering Support Services

- Traveled on-site to support global steam blowing & chemical cleaning operations

- Designed and managed novel wastewater membrane R&D system

Blacksmith
Mar. 2010 - Feb. 2012

George Ranch Historical Park, Houston, Texas

Public Forging Demonstrations

- 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 - C++ biochemical simulations for inference rules

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 - Model Predictive Control

BS in Mathematics
Sep. 2012 - May 2014

Houston Baptist University

Differential Geometry, Complex Variables, Real Variables

Skills

Development: Visual Studio, VS Code, Vim, Git, Markdown, Terminals
Coding: C/C++, CMake, Python, Scheme, Bash/Batch, MATLAB, \LaTeX
Hobbies: Cooking, Climbing, Dance, Music, T.Tennis, Shop-work, Ham 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