Porter Glines

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Education

May 2022

Master of Computer Science | Idaho State University

- 4.0 GPA, Phi Kappa Phi
- Thesis: Imposing Structure on Generated Sequences: Constrained Hidden Markov Processes
- Graduate Teaching Assistantship Grant 2020-2021 and 2021-2022
- Outstanding Graduate Student 2021-2022
- Coursework: Computational Theory, Software Testing, Empirical Software Engineering, Advanced Algorithms, Machine Learning, Compilers, Graphics, Quantum Programming

Dec 2019

Bachelor of Computer Science | Idaho State University

Graduated cum laude with a minor in Mathematics

Experience

2019 - 2022

Research and Teaching Assistant | Idaho State University

Collaborated on generative models in *Python* and *Rust*. Tutored and graded for upper-division and graduate courses, including Computational Theory, Advanced Algorithms, and Machine Learning.

2016 - 2019

IT Student Supervisor | Idaho State University

Validated and updated PowerShell scripts to facilitate labs' transition to Windows 10. Supervised and trained IT Support Technicians at ISU and retained an in-depth knowledge of Windows and MacOS to support users across campus.

Projects (hosted on GitHub)

Constrained Hidden Markov Model (Master's Thesis)

Written in *Rust* with high test coverage. Performance is 10x over a previous Python implementation. *Generated musical sequences* styled after Bach's Chorales. Generated music compared favorably against an Anticipation-RNN (recurrent neural network) in an IRB-approved survey.

Mnemonic Device Generator using Markov chains

C++ multi-threaded program generating natural language mnemonic devices. Communicates through IPC to a *Django* backend that serves a dynamic frontend — presented at ICCC's 2019 conference.

Pomodoro: iOS/watchOS Tasks and Focus Timer App

Models the Pomodoro technique developed by Francesco Cirillo. Utilizes unique UI to drag and drop tasks to an interval timer progress bar. Uses Apple's declarative SwiftUI framework and CoreData.

Publications

Glines, P., Griffith, I., & Bodily, P. M. (2021). Software Design Patterns of Computational Creativity: a Systematic Mapping Study. Proceedings of the 12th International Conference on Computational Creativity, pages 218-221.

Glines, P., Biggs, B., & Bodily, P. M. (2020). A Leap of Creativity: From Systems that Generalize to Systems that Filter. Proceedings of the 11th International Conference on Computational Creativity, pages 297-302.

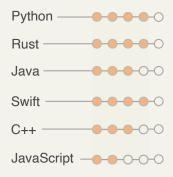
Glines, P., Biggs, B., & Bodily, P. M. (2020). Probabilistic Generation of Sequences Under Constraints. Proceedings of the 1st Intermountain Engineering, Technology, and Computing Conference, pages 135-140.

Bodily, P. M., Glines, P., & Biggs, B. (2019). "She Offered No Argument": Constrained Probabilistic Modeling for Mnemonic Device Generation. Proceedings of the 10th International Conference on Computational Creativity, pages 81-88.

Links

github.com/po-gl linkedin.com/in/porter-glines porterglines.com

Languages



Skills / Familiar With

Agile / Scrum

Clean Code

Test-driven Development

NeoVim

Machine Learning

Neural Networks

Unix command line

Bash Scripting

MacOS and Windows

SQL

LATEX

Academic Conference Reviewing