





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

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 mnemonic devices and communicating through IPC to a *Django* backend that serves a dynamic frontend. Presented this project at ICC's 2019 conference in North Carolina.

Pomodoro: iOS/watchOS Tasks and Focus Timer App

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

Python 
Rust 
Java 
Swift 
C++ 
JavaScript 

Skills / Familiar With

Agile / Scrum
Clean Code
Test-driven Development
NeoVim
Machine Learning
Neural Networks
UNIX command line
BASH Scripting
MacOS and Windows
SQL
L^AT_EX
Academic Conference Reviewing