





# 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 ICCO's 2019 conference in North Carolina.

### Pomodoro: iOS and watchOS Tasks and Focus Timer App

Based on the Pomodoro technique developed by Francesco Cirillo. Uses Apple's declarative framework *SwiftUI* and *CoreData*. Users have expressed significant increases in productivity after using the app.

## 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.






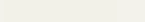
Glines, P., Biggs, B., & Bodily, P. M. (2020). Probabilistic Generation of Sequences Under Constraints. *Proceedings of the 1st Intermountain Engineering, Technology, and Computing Conference*, pages 135-140.

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](https://github.com/po-gl)  
[linkedin.com/in/porter-glines](https://linkedin.com/in/porter-glines)  
[porterglines.com](https://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<sup>A</sup>T<sub>E</sub>X  
Academic Conference Reviewing