

Andrew A. Cashner

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Programming languages	JavaScript, Python, Scheme, HTML, CSS, LaTeX, XML, XSLT, Haskell, Object Pascal, C, SQL, C#
Technologies/Frameworks	Linux operating systems; Bash, Make, Git, Unix CLI tools; React.js, Node.js, Django, MySQL, .NET
Foreign languages	Spanish, German; reading ability in French, Italian
Soft skills	Public speaking, research, technical writing, team leadership, intercultural communication

Projects

Full-Stack Web Game Development with React.js and Django (*Chronoquiz*)

- Followed **software-development lifecycle** to design a timeline game according to a music professor's specifications
- Built and maintained a **single-page application** with a frontend in **TypeScript** using **React.js** connected via **RESTful API** to a **Python Django** backend with a **MySQL database**
- Applied **responsive web design** in **CSS** and **UI/UX design** to allow users to create and share their own games

Automatic Music Composition in Haskell (*Arca musarithmica*)

- Created a **pure-functional** software implementation in **Haskell** of a device for automatic music composition invented in 1650
- Provided **web application** frontend in **PHP** and **JavaScript** to render **XML** from user-selected inputs via graphics, audio **APIs**

Music Encoding and Conversion in Scheme and Object Pascal (*lirio*, *ly2mei*)

- Extended the capabilities of the Lilypond music-notation software and made it **accessible to non-technical users** with a configurable, semantic interface using **Scheme** in the *lirio* library, used in two published **editions** and a **book**
- **Designed algorithms** to parse and compile Lilypond to XML in *ly2mei*, an **object-oriented** converter in **Object Pascal**

Digital Authoring and Publishing for Digital Humanities (*xmlauthor*, *musicography*)

- Established a **digital publishing** system (*xmlauthor*) that generates web and print layout with automatic bibliography, citations
- Crafted **XSLT** stylesheets to transform source files in extended XHTML to **LaTeX** and **HTML/CSS**, using a BibLaTeX database
- Simplified inclusion of music symbols in LaTeX with the *musicography* package, now widely used among academic writers
- Used in the digital book *Songs at the Woods' Edge: The Earth Songs of the Seneca Nation*, <https://www.senecasongs.earth>

Software Research Publications

- "Lilypond Music Notation Software in the Digital-Humanities Toolbox," *Digital Humanities Quarterly* (2024)
- "Athanasius Kircher's Arca musarithmica (1650) as a Computational System," *Journal of Creative Music Systems* (2024)

Professional Experience

ROC Music (After-school program)	Keyboard Instructor	2023–Present
University of Rochester	Assistant professor of music	2017–Present
New Hope Free Methodist Church (Rochester)	Director of Worship and Creative Arts program	2019–2023
University of Southern California	Assistant professor of musicology	2015–2017
International Council on Systems Engineering	Assistant editor, <i>INSIGHT</i> periodical	2006–2013

Education

University of Chicago	Doctor of Philosophy (Music)	2015
University of Notre Dame	Master of Sacred Music	2009
Lawrence University	Bachelor of Music	2003

Fellowships and Honors

National Endowment for the Humanities	Fellowship for Digital Publication	2023–2024
American Musicological Society	Alfred Einstein Award	2015