

Richard Higgins, Ph.D., M.I.S.
Software Engineer
Indiana University Bloomington

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EMPLOYMENT

Software Engineer, Library Applications (2018- present)

Library Technologies, Indiana University Libraries.

- Develop and analyze open-source software solutions supporting the operations of IU Libraries.
- Troubleshoot and resolve issues with database-driven, dynamic web applications, including software written in PHP, JavaScript, NodeJS, Python, Ruby on Rails, Java, and XSLT.
- Work closely with the IU Libraries' Discovery and User Experience Department and third-party developers to maintain and improve the Libraries' primary web site.
- Maintain knowledge and innovation in several domains, including Drupal CMS, Open Access publishing, metadata standards and processes, digital library and repository management, front-end frameworks, and user experience.
- Certified Scrum Product Owner (CSPO)

Open Access Publishing and Repository Manager — Data Specialist

(2015-2018) Scholarly Communication Department, Indiana University Libraries.

- Performed maintenance, improvements, and upgrades as the member of Scholarly Communication and Library Technologies teams supporting IUScholarWorks and open scholarship services.
- Provided daily user support and help desk solutions for the IUScholarWorks web applications, including institutional repositories (DSpace, TIND), a digital publishing platform (OJS), and CMS web applications (Drupal).
- Recommended and implemented best practices for mobile-first and accessible design, and systems and metadata solutions for science computing, data management and preservation, digital publication, and long-term access to research materials.
- Instructed faculty and graduate students on the use of software solutions for distributing scholarship, research storage, accessibility, and data management (including SDA and IU's high-throughput systems).
- IU Libraries' Annual Professional Staff Award Winner (2017)

Digital Humanities Support Specialist (GA appointment, 2014-2015)
Cyberinfrastructure for the Digital Humanities, Research Technologies, University Information Technology Services.

Information Commons Consultant (2013- 2014)

Information and Library Science, Luddy School of Informatics, Computing, and Engineering.

Alternate Media Editor (2013)

Adaptive Technology and Accessibility Center, University Information Technology Services.

Visiting Lecturer (2010-2012)

Department of English, Indiana University Bloomington.

Lecturer of English (2011-2012)

Franklin College (Indiana)

Teaching Assistant (2008-2011)

Department of English, Indiana University Bloomington

Assistant Sponsoring Editor (2002-2004)

Indiana University Press, Bloomington, IN

Managing Editor (2000-2001)

Victorian Studies journal, Indiana University Bloomington

EDUCATION

Information Science, M.S. (2016)

Department of Information and Library Science, Luddy School of Informatics, Computing, and Engineering. *Full-stack web programming, scripting languages, XML technologies, digital publishing, HCI/UX design, information architecture.*

English Language and Literature, Ph.D. (2009)

Department of English, Indiana University Bloomington. *Received James A. Work Award for outstanding graduate student in English (2008) and Victorian Studies Dissertation Fellowship (2007).*

World Literatures, BA (1994), *with distinction.*

Department of Literature, University of California — Santa Cruz.

PROJECT PORTFOLIO

- ***A Fresh Take on JATS: Book Reviews as a Simple, Immediate, and Accessible Gateway to Full-Text Publishing***, with Matthew Vaughn. Library Publishing Forum (2023).
- **Libraries Blogs, WordPress theme**
Unique implementation of IU's *Rivet Design System* (2022).
blogs.libraries.indiana.edu
- ***Comic Book Readership Archive***, with Dr. John A. Walsh. Produced initial dataset for a prototype that received funding from OVPR's "New Frontiers" and the "Institute for Advanced Study."
comics.indiana.edu/cobra
- **Visualization of Field Museum Data**
Visualization project for the Field Museum of Natural History, rendering a statistical analysis of interaction metadata from its EMu asset management database.
www.zenoeffect.net/FMNH/index.html
- **Visualizing Digital Humanities Activity** at Indiana University, with network graph algorithms applied using RStudio, layout with Gephi, and embedded in HTML5 using gefx.js.
Tutorial: www.rshiggins.net/gefx-tutorial.html
Interactive graph: www.rshiggins.net/dhnet/index.html
- **Data Curation and Management Proposal** for preserving a social media dataset, including metadata schema assessment, compliance with NEH guidelines, and enumeration of repository specifications.
www.rshiggins.net/DataCurationPlan.pdf

TOOLS AND SKILLS

- **Full-stack Web Development:** PHP, JavaScript, NodeJS, ReactJS, Rails/Ruby, Java, MySQL, PostgreSQL, Linux Shell, API development and implementation
- **XML and Metadata Technologies:** DTD/XSD, XSLT, XPath, XQuery, RDF, TEI, JATS, Dublin Core, MARC, EAD, MODS, OAI-PMH
- **Collaboration and Project Management:** GitHub, Confluence, JIRA, Slack, Agile/SCRUM, Teams

- **Media and Data Presentation:** Gephi, D3.js, Tableau, Omeka, Leaflet, JW Player, OpenRefine, Sci2 Tool
 - **Text and Data Analysis:** R/RStudio, Python, NLTK, Google NGram, Jena/SPARQL
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RECENT SERVICE

Library Staff Organization Council, Indiana University Libraries (2023-2024)

Software Carpentries Instructor Training, Volunteer-run, not-for-profit workshops for researchers (2022)

Libraries Diversity Committee, Indiana University Libraries, subgroup member (2020)

Harmony School Technology Committee, Bloomington, IN (2019-2020)

Harmony School High School, Volunteer Substitute Teacher, Bloomington, IN (2018)