Richard Higgins

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EMPLOYMENT

Programmer Analyst, Web Applications
Library Technologies, Indiana University Libraries, November 2018-present

- 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, 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.
- Develop and maintain knowledge in several domains, including Drupal CMS, metadata standards and processes, relational database design, digital library and repository management, front-end frameworks, and user experience and interaction.

Open Access Publishing and Repository Manager — Data Specialist
Scholarly Communication, Indiana University Libraries, 2015-2018

- 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 two institutional repositories (DSpace, TIND), a digital publishing platform (OJS), and two 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).
- Certified Scrum Product Owner (CSPO)
- 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.

- Created initial server environments and website for CyberDH; coded and packaged R scripts for scalable text mining demonstrations.

Information Commons Consultant (2013- 2014) Department of Information and Library Science, School of Informatics and Computing.

- Supported users' access to RHEL web and database servers and solved configuration and permissions problems.

Alternate Media Editor (2013) Adaptive Technology and Accessibility Center, University Information Technology Services, Bloomington/Indianapolis.

- Lead for converting math and statistics to Braille using MathType, MathML, and Nemeth.

Visiting Lecturer (2010-2012) Department of English, Indiana University

- Designed literary, writing, and liberal arts courses with a focus on digital and computational humanities.

Lecturer of English (2011-2012) Franklin College, Franklin, Indiana

- Designed literary, writing, and liberal arts courses with a focus on digital and computational humanities.

Teaching Assistant (2008-2011) Department of English, Indiana University

Asst. Sponsoring Editor (2002-2004), Indiana University Press

Managing Editor (2000-2001), *Victorian Studies* journal

Education

Information Science, **MSci** (2015) ILS Department, School of Informatics and Computing, Indiana University. *Full-stack web programming, scripting languages, XML technologies, digital publishing, HCI/UX design, information architecture.*

English, PhD (2009) Department of English, Indiana University. *Received* James A. Work Award *for outstanding graduate student in English (2008) and Victorian Studies Dissertation Fellowship (2007).*

Literatures in English, MA (1998) Department of English, Indiana University.

World Literatures, BA (1994), *with distinction.* Department of Literature, University of California, Santa Cruz.

Project Portfolio

- *Comic Book Readership Archive* **(CoBRA)**, 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."
  http://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.
  http://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: http://www.rshiggins.net/gefx-tutorial.html
  Interactive graph: http://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.
  http://www.rshiggins.net/DataCurationPlan.pdf

- **Linked Open Data** tool designed and programmed featuring a Java-based Jena endpoint to process SPARQL semantic search queries and a unique OWL ontology derived from Alan Moore's *Watchmen*.

- **Website developed** with customized Bootstrap grid system and SASS compiled CSS for Cyberinfrastructure for the Digital Humanities, a unit of Research Technologies, University Information Technology Services.

- **Prototype Game App** planned, designed, and built to test a mobile-based scavenger hunt for Summer Orientation activities and First-Year Experience programs.

- **XML dataset of popular music,** with self-authored XSD schema, XSLT stylesheets for XHTML publication, and XQuery implementation for analysis.

- **Integration of streaming video** into course content for class room use and self-study using JW Player, JavaScript, and Dojo Toolkit controls.

- **PostgreSQL database** implemented for the collection of digital library content metrics, with original SQL queries for reporting and analysis of costs-per-view.

Tools and Skills

- **Full-stack Web Development**: PHP, JavaScript, JQuery, Ajax, Ruby on Rails, Java (especially Apache Tomcat Web Apps), MySQL, PostgreSQL, Unix Shell, REST API, JSON, DSpace, XTF, LESS+CSS, Omeka, Drupal, WordPress

- **XML and Metadata Technologies**: DTD/XSD, XSLT, XPath, XQuery, RDF, Document Object Model, TEI, JATS, Dublin Core, MARC, EAD, OAI-PMH, Z39.50, XMP

- **Collaboration and Project Management:** GitHub, Confluence, JIRA, Trello, Slack, Agile/SCRUM

- **Media and Data Presentation**: Gephi, D3.js, Tableau, Omeka, Leaflet, JW Player, Google OpenRefine, Sci2 Tool

- **Media Editing and Design**: PowerPoint, Illustrator, Photoshop, Audition, Premier, InDesign, Audacity, ImageMagik, GIMP, FCP, Handbrake

- **Text and Data Analysis**: R/RStudio, Python NLTK, InPhO Topic Explorer, Hathi-Analytics Research Commons, Voyant, JSON Query, Google NGram, Jena/SPARQL

- **Leadership**: Extensive instructional experience, committed to consensus and collaboration, fearless engagement with new technologies, dedicated to open standards and user-centered design, problem-solve with flexibility and persistence.

Professional Development

Courses
- Programming for Digital Publishing (XSLT) – John A. Walsh
- Database Design (SQL) – Elli Eleni Bourlai
- Humanities Programming (Ruby on Rails) – HILT Summer Institute
- Data Semantics: Linked Open Data (Java) – Ying Ding

- Information Visualization (R, d3.js) – Katy Boerner
- Information Architecture (wireframing, usability testing) – Stasa Milojevic
- XML, Unix, PHP, and JavaScript – SOIC Summer Workshops
- Data Curation and Metadata Standards (XML) – Stacy Konkiel
- Digital Libraries (Omeka) – John A. Walsh
- Human-Computer Interaction (iOS app) – Hamid Ekbia

Workshops

- Intro to the Scholars' Commons IQ Wall (*contributor)*
- IT @ IU for Digital Humanities Research and Publication (*contributor)*
- Text Encoding Initiative – SC Workshop
- Scalar Tutorial – SC Workshop
- Using Omeka on Webserve – SC Workshop
- HathiTrust Research Center (HTRC) Data Capsule –Data to Insight Center
- HTRC v3.0 – Data to Insight Center
- From Texts to Topics (The InPhO Project)
- Natural Language Processing and NLTK (Python) – SC Workshop
- Advanced Statistical Analysis with R – SSRC Workshop in Methods
- Open Journal Systems (OJS) – PKP Webinar
- Python Basics – UITS Training
- JavaScript – UITS Training