William Beldman

 (He/Him)

✉ (Academic) wbeldman@uwo.ca

✉ (Professional) wbeldma@uwo.ca

🌐 https://www.csd.uwo.ca/~wbeldman

 https://github.com/ostracize

🐞 https://hackerone.com/n1wa4awfkb

🎓 Education

2021	**M.Sc. Computer Science, Western University** in Artificial Intelligence and Computer-Based Games. Thesis based. Supervisor: Dr. Robert E. Mercer
2006	**B.Sc. Computer Science, The University of Western Ontario** Deans Honor Roll.

🏛 Teaching Experience

2023 – · · · · **CompSci 3305** Operating Systems.
Course description: Survey of major operating systems; interprocess communication; multi-tasking; scheduling; memory management; performance and measurement issues; trade-offs in operating system design; concurrency and deadlock.

2022 – · · · · **CompSci 2211** Software Tools and Systems Programming.
Course description: An introduction to software tools and systems programming. Topics include: understanding how programs execute (compilation, linking and loading); an introduction to a complex operating system (UNIX); scripting languages; the C programming language; system calls; memory management; libraries; multi-component program organization and builds; version control; debuggers and profilers.

2016 **CompSci 3319/CompSci 3120/CompSci 9659/DigiHum 3320** Databases I.
Course description: A study of relational databases. Theoretical concepts will be covered, including relational algebra and relational calculus. Commercially available database systems will be used to demonstrate concepts such as Structured-Query-Language (SQL), writing code to connect and query a database, query optimization, Atomicity-Consistency-Isolation-Durability (ACID) concepts, and database design.

💼 Professional Experience

2023 – · · · · **Data Architect and Analytics Manager** Institutional Planning and Budgeting, Western University.
Primary duties: Worked with senior leaders to ensure a data analytics architecture is in place to identify, prioritize, and execute the data and analytic initiatives with clear line of sight to enterprise strategies and business outcomes. This included, but not limited to, designing and managing a data warehouse/lake/lakehouse. Big data analysis, visualization tools, and ETL pipeline management. Supervising and mentoring the data analytics team.

2016, 2022 – · · · · **Lecturer** Computer Science Department, Faculty of Science, Western University.
Primary duties: Preparing course materials. Preparing lab activities. Lecturing in a large group setting. Preparing course quizzes and exams. Proctoring and marking quizzes and exams. Supervising and mentoring teaching assistants. Meeting students for consultation. Conflict resolution.

📖 Professional Experience (continued)

2016 – 2023	🔖 **Database Analyst** Western Technology Services, Western University. *Primary duties*: Managing databases including monitoring, troubleshooting, and resource/performance analysis. Application administration duties for enterprise grade applications. Primary focus on application and databases for Peoplesoft, Elasticsearch/Logstash/Kibana, Tableau, Laserfiche, Data Warehouse, IBM Cognos Analytics, and other business oriented applications.
2010 – 2016	🔖 **Systems and Database Administrator** Information Technology Services, Western University. *Primary duties*: Managing databases including monitoring, troubleshooting, and resource/performance analysis. Full stack systems administration duties. Primary focus on databases for identity management, Sakai learning management system, and Linux and Windows operating system administration.
2006 – 2010	🔖 **Senior Operator** Information Technology Services, The University of Western Ontario. *Primary duties*: Programming and reporting to normalize data inconsistencies across SQL databases, directory services, APIs, and flat files. Automating repetitive tasks thorough PERL, shell, and batch scripting. Backup administration. Secondary level of support for operations and computer accounts staff. Data centre monitoring and alerting.

⚙ Skills

Languages	🔖 Full competencies for English. Moderate competencies for French.
Coding	🔖 C/C++, Python (including TensorFlow, NLTK, scikit-learn, Beautiful Soup, and NumPy packages), Java, PERL, SQL, XML/XSL, LaTeX, …
Databases	🔖 Oracle, Microsoft SQL, MySQL/MariaDB, SQLite.
Web Dev	🔖 Html, CSS, JavaScript, certificate management, IIS, Apache, Tomcat, and Weblogic Web Server.
Operating Systems	🔖 RedHat/CentOS/Oracle Linux, Debian/Ubuntu Linux, Solaris Unix, Windows Server, Windows 10/11.
Enterprise Applications	🔖 Peoplesoft, Elasticsearch/Logstash/Kibana, Laserfiche, Tableau, Splunk, Atlassian Jira and Confluence, IBM Cognos Analytics, Inteum, Microsoft 365.

⚗ Research and Teaching Interests

Teaching	🔖 Cyber Security. Database management systems. History of science and technology. Networking. Operating systems. Programming languages. Video game design and technologies.
Other	🔖 Artificial Intelligence, machine learning, and natural language processing. Blockchain technology, distributed ledger technology, decentralized finance, Bitcoin and cryptocurrency. Ethical hacking, bug bounty reward programs, and capture the flag. Statistics, big data, data visualization and analytics.

👥 Memberships

HEUG	🔖 Higher Education User Group
IEEE	🔖 Institute of Electrical and Electronics Engineers
ACM	🔖 Advancing Computing as a Science & Profession

👥 Memberships (continued)

O'Reilly   🔖   O'Reilly Media membership

📖 Research Publications

1.   W. A. Beldman, "Predicting stock market sector sentiment through news article based textual analysis," Electronic Thesis and Dissertation Repository. 7937. Western University, 2021.
   🔗 URL: https://ir.lib.uwo.ca/etd/7937.