

# Dr. Jacob W. Archambault

FULL-STACK DEVOPS ENGINEER

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## EDUCATION

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|------|--|---|
| 2017 | <b>Ph.D.</b> , philosophy  | FORDHAM UNIVERSITY, BRONX, NY                             |
|      | Dissertation: The development of the medieval Parisian account of formal consequence. Director: Professor Gyula Klima. Passed without corrections. |   |
| 2021 | <b>A.S.</b> , software development   | JEFFERSON COMMUNITY AND TECHNICAL COLLEGE, LOUISVILLE, KY |

## PROFESSIONAL CERTIFICATIONS

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|-------------------|---|
| Jan 2024-Jan 2027 | AWS certified developer - associate           |
| Dec 2023-Dec 2026 | AWS certified solutions architect - associate |
| Jul 2023-Jan 2027 | AWS certified cloud practitioner              |

## EMPLOYMENT

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|---------------------|---|-------------------------------|
| May 2022-Nov 2023   | Venminder   | SOFTWARE DEVELOPER II         |
|                     | Created DynamoDB tables via AWS CloudFormation for control assessments containerized microservice instantiating CQRS architecture running in ECS Fargate, and added generic batch update ability to our Dynamo data access library using AWS SDK for .NET. Refactored multiple LINQ-to-SQL queries to prevent timeouts for our largest customers and realize major performance improvements after companywide SQL Server-to-PostgreSQL migration. Replaced longer monthly retrospectives with shorter more frequent retrospectives aligned with our weekly release cycle, leading to more consistent follow-through and better cross-department collaboration.  |                               |
| April 2021-May 2022 | PetPartners   | ASSOCIATE SOFTWARE DEVELOPER  |
|                     | Created backend logic, C# web API endpoints, and normalized SQL tables via EF migrations for handling commission payments to subcontracted companies and internal call center agents for new flagship employer-based pet insurance product. Consolidated repeat API calls and removed Cartesian explosion for premium tracking feature causing slow coverage period loading, leading to a 26X performance improvement. Wrote wiki documentation for the company's release process, git workflow, and numerous routine bugfixes, scripted automation of .NET web API publication for local development environments, and created Azure DevOps bug template subsequently adopted across entire company. |                               |
| Aug 2019-April 2021 | Waystar   | SOFTWARE DEVELOPER APPRENTICE |
|                     | Pioneered work converting .NET Framework projects to containerized .NET Core projects running on Docker; co-led company-wide training on using YAML for Azure DevOps pipeline configuration; built, deployed, and configured team projects with Azure DevOps, and set up logging of automated alerts from A10 load balancers to Microsoft Teams and Splunk. Fixed bugs in Chrome and Firefox web crawlers, written as Java Maven projects using Selenium, obtaining patient payment information from insurance provider websites, and deployed those fixes to development and production environments with Jenkins.   |                               |
| June 2015- May 2017 | Fordham University  | DISTINGUISHED RESEARCH FELLOW |
|                     | Bronx, NY. Published numerous articles, book contributions, and an edited volume with publishers including Cambridge University Press, Brill and Springer, secured grants and honors from institutions including the University of Salzburg and the University of St Andrews, and presented papers at prestigious institutions across three continents, primarily in the history and philosophy of logic. For a full list of publications and presentations, see my CV.   |                               |

## SELECT PROGRAMMING PROJECTS

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### C#

#### PERSONAL WEBSITE

A .NET 8 MVC website with links to my programming projects, published papers, resume and CV, running in a Docker Linux container deployed on Azure. Features implemented include partial views and dynamic page content generation, bundling and minification, custom routing, http status code error handling, and Google Analytics.

#### AUTO LOT MVC STORE

A three-project .NET 5 MVC solution consisting of a website front-end, a data access layer, and a model layer. Makes use of .NET 5 records, razor view components, custom tag helpers, exception filters, custom routing, YAML pipeline configuration with GitHub actions, and LINQ queries over objects linked via entity framework core to a SQL Server relational database. Expanded from a *Pro C# 7* tutorial.

#### RECURSIVE FOLDER COPIER

A .NET 5 file I/O application recursively copying files to an output directory based on user prompts for filters by date, regex pattern, number of files to match per subdirectory, making use of a decorator pattern, dependency injection and multiple implementations of a common interface.

#### STUDENT INFO APP

Code Louisville certification received for completing coursework and this console project serializing student data gathered from user prompts to a JSON file. Implemented C# features include LINQ queries, reflection, delegates, exception handling, and JSON serialization.

#### BLAZOR CALCULATOR

A Blazor WebAssembly calculator application, unifying the code for various calculator operations via lambda expressions and model binding.

### Python/SQL

#### CPI INDEX ANALYSIS

Code Louisville certification received for completing coursework and Jupyter Notebook project analyzing consumer price index data, demonstrating facility with SQL queries, commands and joins, Python database connections and the pandas and matplotlib libraries for data analysis and visualization.

### TypeScript, JavaScript, and web development

#### TYPESCRIPT INCOME TAX CALCULATOR

A front-end application using pure functions in TypeScript to display tax liability from a user's gross income input on a Bootstrap-styled HTML page.

#### KUBERNETES WORDBANK

An Aurelia wordbank application that runs on a YAML-specified Kubernetes deployment.

#### AURELIA BLOG

An Aurelia TypeScript application implementing a multi-stage build with nginx built on a slimmed-down alpine Docker container image that calls the jsonplaceholder posts API.

#### ANGULAR STUDENT INFO

An Angular and Node.JS app for updating student midterm and final exam info, retrieved from a MongoDB database via mongoose.

## SKILLS

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| AWS             | DYNAMODB, CLOUDFORMATION, FARGATE, ECS, CLOUDWATCH, S3, IAM, AWS CLI   |
| DevOps          | KUBERNETES, BASH, POWERSHELL, DOCKER, JENKINS, TRUNK-BASED DEVELOPMENT |
| Microsoft Azure | AZURE DEVOPS PIPELINES, APP SERVICE, AZURE DEVOPS TEMPLATES, AZURE CLI |
| Python          | PANDAS, MATPLOTLIB, JUPYTER NOTEBOOKS                                  |
| .NET            | ENTITY FRAMEWORK CORE, LINQ, xUNIT, ASP.NET CORE, BLAZOR               |
| Databases       | POSTGRESQL, SQL SERVER, MONGODB  |
| Web development | TYPESCRIPT, ANGULAR, AURELIA, NODE.JS, BOOTSTRAP, JQUERY, WORDPRESS    |