

# 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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Dec 2023-Dec 2026	AWS certified solutions architect - associate
Jul 2023-Dec 2026	AWS certified cloud practitioner

## EMPLOYMENT

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May 2022-present	Venminder	SOFTWARE DEVELOPER II
	Created DynamoDB tables via AWS CloudFormation for control assessments containerized microservice instantiating CQRS architecture, 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 Aro 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.	

## FORDHAM UNIVERSITY

2015-2017	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 <i>CV</i> .

## SELECT PROGRAMMING PROJECTS

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### C#

#### PERSONAL WEBSITE

A .NET 5 MVC website with links to my programming projects, published papers, resume and CV, running in a Docker Linux container. 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.

### Java

#### TRIP REIMBURSEMENT CALCULATOR

A Maven JavaFX application that calculates, then displays meal, travel, and lodging reimbursement amounts based on different maximum daily allotments from user inputs.

#### SLOT MACHINE GAME

A Maven JavaFX slot machine game that displays per turn and total winnings on each spin, calculated from the player's bet and number of matches.

#### EMPLOYEE REFACTOR

A Java tutorial showing through its git history how to convert a tightly coupled application using inheritance and mutable fields into one implementing best practices including strong encapsulation, composition over inheritance, object cohesion, loose coupling, immutability, and dependency injection, via an application printing out information for various types of employees. Includes an extensive README explaining the implemented design decisions.

### 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.

#### AURELIA BLOG

A containerized Aurelia TypeScript application making use of the jsonplaceholder posts API .

#### ANGULAR STUDENT INFO

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

#### MONGO TRIP LOG

A node, express, and handlebars application retrieving trip data from a Mongo NoSQL database.

## SKILLS

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### DevOps

KUBERNETES, AWS, AZURE DEVOPS, DOCKER, JENKINS

### Ontology/knowledge engineering

OWL, RDF, PROTÉGÉ, SWRL, SPARQL

### Data engineering

DYNAMODB, POSTGRESQL, SQL SERVER, MONGODB

### JVM

SCALA, INTELLIJ IDEA, JAVA, SELENIUM, JUNIT, GRADLE, MAVEN, JAVA FX, ECLIPSE

### Data analysis

PYTHON, PANDAS, MATPLOTLIB, JUPYTER NOTEBOOKS

### Web development

TYPESCRIPT, ANGULAR, AURELIA, NODE.JS, BOOTSTRAP, JQUERY, WORDPRESS

### .NET

ENTITY FRAMEWORK CORE, LINQ, xUNIT, ASP.NET CORE, BLAZOR