

Gregory DiCristofaro

www.gdicristofaro.com • www.github.com/gdicristofaro

gregdicristofaro@gmail.com

TECHNOLOGY EXPERIENCE:

Software Engineer: Sleuth Kit Labs (formerly Basis Technology), *February 2020 - Present*
Somerville, MA

- Develop and maintain java desktop applications with Swing, JavaFX, Maven, Apache Ivy, SQLite, PostgreSQL, and Netbeans RCP
- Manage automated testing using Jenkins, Squish/QT JavaFX automated tests, bash scripts, python scripts, Apache Ant, JUnit, Mockito, and snakeyaml for yaml configuration
- Installation management using Advanced Installer, shell installation scripts, Snap packages, and Homebrew
- Use Python to update and maintain application modules, manage application localization, automate the creation of application-specific databases, web scrape for data aggregation, create Squish/Qt JavaFX automated tests, and verify E2E regression tests fuzzy database diffing
- Manage parsing and exporting of documents using Jackson, Gson, and Apache POI
- Manage data pipeline processing using Java, C++, python, cloud updatable rules over GCP
- Create RESTful and Reactive web applications using Spring Boot, Jackson, Spring JDBC, Maven, React, Material UI, Typescript, Server Sent Events, Project Reactor, Styled Components, and Swagger
- Create server side infrastructure using Docker, JMS, ActiveMQ, AWS DynamoDb, AWS Lambda, GCP Cloud Functions, GCP BigQuery, GCP Datastore

Software Engineer: KBR, Lexington Park, MD *July 2017 - February 2020*

- Develop RESTful applications utilizing .NET Web API and Json.NET
- Create RESTful client applications in Java utilizing GSON and in C# utilizing Json.NET
- Web-based UI development with ASP.NET Web Forms, ASP.NET MVC, Kendo UI, Bootstrap, JQuery, CSS, and HTML
- Data visualizations with JavaScript, TypeScript, D3.js, and SVG
- Database interaction with Microsoft SQL Server, T-SQL, Entity Framework, Linq to SQL, and ADO.NET
- Office document exporting with EPPlus, Office Open XML, and Spire Powerpoint utilizing ImageMagick/Magick.NET for image embeds
- Develop web applications utilizing React, Redux, and Bootstrap frontend with ASP.NET Core backend
- Modernize J2EE web applications built with JSP and JSF

M.S. Software Development: Boston University, Boston, MA

Fall 2017 - Spring 2019

Classes in Python Development, Agile SDLC, Data Structures and Algorithms, Database Design and Implementation, Server-Side Development, and Angular Development. GPA 3.96/4.00

Software Engineering Certificate: Harvard University, Cambridge, MA *Fall 2012 - Fall 2014*

Classes included Programming Microsoft .NET, Systems Programming and Machine Organization, and Software Design. GPA 4.00/4.00

Notable Programs Built:

Algorithmic:

- Scala implementation of the Seam-Carving Algorithm for content-aware image resizing
- Class scheduling program based on the AC-3 algorithm utilizing Apache POI API to import from excel documents written in Scala
- Spell-checking algorithm built in C checking words against a dictionary file utilizing a self-developed hash map with buckets
- Implementation of the Constant-Q transform in TypeScript and C++ for performing spectral analysis on music utilizing Angular development, Chart.js, Emscripten, WebAssembly, Web Audio API, and Web Workers
- PostgreSQL database project for running queries to determine area covered by a region as well as the overlap of regions utilizing PostGIS

Mobile:

- Android NPuzzle game with an A* search algorithm for solving

Web:

- Map making web application developed with Node.js, TypeScript, and Angular manipulating uploaded images using JavaScript canvas operations utilized in showing geography to young students
- Calendar making application developed with Node.js, Webpack, TypeScript, React, Moment.js, Material-UI, and PptxGenJS that generates a PowerPoint of a calendar with calendar events for the year
- Python web application for converting Photoshop files into SVG's for data visualization

Desktop Applications:

- Electron-based desktop application for parsing Esri shapefiles and combining them into a single GeoJSON file
- Memory-style game built in Java AWT and Swing, which can be configured to either use images or text for pairs used as an educational tool
- Music composition software for young students built in Java utilizing the LibGDX library for cross-platform deployment: processes PCM audio data, utilizes the JavaScript Web Audio API, visualizes music in a sequencer, and renders standard music notation

Languages and Technologies:

- Experienced in Java, C, C#, SQL, Python, TypeScript, Javascript, HTML, CSS, and React
- Working knowledge of Linux, Go, C++, Rust, PHP, Scala, and F#

TEACHING EXPERIENCE:

M.M. Music Education: University of the Arts, Philadelphia, PA *Summer 2012 - Fall 2015*

- Thesis: Designed cross-platform music composition software to foster creativity for young students that processes audio, visualizes music in a sequencer and renders standard music notation
- GPA 4.00/4.00

Music Teacher: St. Mary's County Public Schools, Leonardtown, MD *August 2006 - June 2017*

- **Instruction:**
 - Taught middle school general music and band director
 - Taught elementary band and general music at a Title 1 and special education magnet school
- **Scheduling & Logistics:**
 - Organized grade level and school wide events
 - Determined school-wide schedule to optimize instruction and transitions
- **Leadership and Collaboration:**
 - On-site coordinator for Elementary All County Honor Band in charge of preparing public information about rehearsal locations, reserving rooms for sectional rehearsals, determining appropriate personnel for sectional rehearsals, and coordinating with director
 - Coordinated with teachers to determine scheduling for pull-out lessons in band to minimize impact on classroom teachers and coordinated with teachers to organize performances and events
 - Presenter for staff development sessions for the Fine Arts Department of St. Mary's County Public Schools