Michael Shields

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Looking to utilize my skills and knowledge to solve complex problems and find solutions through coding and other aspects of computer science.

Education

University of Pittsburgh **Pittsburgh, PA**
Bachelors of Science - Computer Science *2011-2015*
GPA: 3.63

Experience

The Bank of New York Mellon **Pittsburgh, PA**
Atlas Software Developer *October 2017–Present*

- Led backend development for Atlas, web application that allows automated continuous delivery of a software project.
- Developed several UI pages for the application, like listing and editing project details.
- Developed many Atlas API endpoints and their backend functionality, among them being project creation, project editing, and project member management.
- Wrote numerous JPA query methods for saving and retrieving project data.
- Successfully interfaced Atlas to Apache Kafka, allowing for resiliency when interacting with any external tool, like Git. Any request made to an external tool will not need to be rerun due to, for example, a JVM crash or network failure.
- *Java/Spring/JPA/Hibernate/Angular 5/JUnit4/Apache Kafka/Spring for Apache Kafka*

Software Developer *April 2017–October 2017*

- Engineered a web application that allows users to generate access forms entirely on their own, normally a job requiring a developer to create them manually using CSV files.
- Users can open existing forms from a database, open them from local CSVs, and export/save created forms to CSV.
- Web interface allows users to drag and drop new parts onto the previewed form, like radio buttons, form fields, etc.
- Application increases form creation throughput exponentially; access form creation time reduced by about 80%.
- *Java/Spring/Angular 4/JUnit4*

Northrop Grumman **Baltimore, MD**
AWACS Software Engineer *June 2016–April 2017*

- Added fault detection messages to the Airborne Warning and Control System (AWACS) radar GUI, by alerting the operator of a software or hardware fault, an example being the processors overheating.
- Extracted data using bitwise operations from messages being sent from a new processor board in the system to accurately detect any faults the system may be having.
- *C++/Ada/Clearcase/Clearquest/Visual Studio 13/UNIX*

VADER UI Engineer   *January 2016–June 2016*

- Added new UI functions for the ground operator to the Vehicle and Dismount Exploitation Radar (VADER). Added a function that allows the operator to adjust the height of the aircraft by inputting the desired altitude to fly to, allowing the operator to simulate different heights for target detection.
- Created a function that takes latitude and longitude as input and pinpoints that location on the virtual earth map of VADER.
- Used the Qt framework for some backend messaging in a separate VADER application to slightly decrease latency and clean up the code.
- *C++/C#/Qt/Visual Studio 10/Visual Studio 13*

Software Engineer   *July 2015–January 2016*

- Created a file converter to convert text files to program specific binary files for the multi-million dollar radar they are used on.
- Created new algorithms for the radar to read the files and enable new radar modes in real time.
- Tested the successful addition of all of the new radar modes while retaining superior target detection.
- *C/C++/Clearcase/Clearquest/Eclipse*

Projects

Snip-it

Android Application   *April 2018-Present*

- Android application that allows users to record MP3 audio snippets to send to other Snip-it users.
- Implements Google Play Services APIs to allow users to sign in via their Google account.
- Utilizes Firebase to authorize new and existing users to the application. The user's Google Account is used to authenticate. When successfully signed in to Google, a resulting ID token from Google is sent to Firebase.
- New users are able to create a username. Usernames are used to search for, and add, friends to send snips to.
- User information is stored in a Firebase Realtime Database instance.
- *Android SDK/Java/XML/Google Play Services/Firebase Authentication APIs/Firebase Realtime Database*

PokeContacts

Android Application   *December 2016-February 2018*

- Android application that takes and alphabetizes the user's contacts into a contact list, with the user able to select a Pokemon avatar for each contact. New contacts are dynamically added to the contact list.
- Implemented an indexed list on the application's front page for quicker navigation of finding contacts.
- Each contact has the usual phone operations, text and calling, along with options to change the contact's avatar, hear its cry, or display its type. Internal storage operations allow the user to customize their contact list and save each contact's avatar.
- Applied the Fresco library for graceful loading and displaying of animated gif files, used for the contact avatars.
- Published to the Google Play Store.
- *Android SDK/Java/XML/Fresco*

Technical skills

Java, Spring Framework, JPA, Hibernate, Android SDK, Android Studio, JUnit, Angular4/5, Maven, Gradle, C/C++, Python, C#, Linux, UNIX, Git, HTML, Apache Kafka, VirtualBox, Typescript, Javascript, vi