TECHNICAL PROFILE

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Aura-Loredana Popescu

Summary

IT professional with a mission to deliver the highest quality solutions with 4+ years of experience in software development, 5 years as Android Software Engineer and 2 years as Cross-Platform Mobile Developer. Currently a PhD student at Politehnica University of Bucharest, where I am developing an Android application, that uses Machine Learning algorithms to predict the affective state of the child from his drawing.

Highly passionate about machine learning, new programming languages and robotics.

Technical Skills

Platforms

- Windows, MacOS, Android, Linux

Technologies:

- Java, Kotlin: Android
- JavaScript: Node.js, Angular 4+
- Ionic, Apache Cordova
- Pandas
- Backend services: Firebase, Analytics, Google Cloud
- Databases: MySQL, SQLite, MySql, RoomDb, Couchbase NoSql, Firebase, Cryptomathic

Machine Learning:
- Convolutional Neural Networks
- Tensorflow
- Keras
- Scikit-learn
- openCV
- Transfer Learning
- Image Data Augmentation
- Jupyter Notebooks, Google Colab, Kaggle, Firebase ML

IoT:
- Raspberry Pi 4
- Bluetooth Programming

- Python

Tools:

- Build tools: Maven, Gradle, NPM
- IDE: Eclipse, IntelliJ IDEA, Android Studio, Atom, WebStorm, PyCharm
- VCS: GIT
- Bug Tracking: JIRA, Github, CI
- Monitoring: Kibana, Amplitude
- Feature flags: Split.io
- IDV checks: Mitek
- Mobile security: Zimperium
- Project Management: JIRA, Confluence, Trello, Asana, Github
- Testing: Mockito, Espresso, SonarQube, Karma, Jasmine

Programming Languages

- Java
- Kotlin
- Python
- Bash
- Groovy
- Ionic
- JavaScript
- SQL
- Angular 4+

Project highlight history

Project   Nonprofit health system (6 months)

Company   Cognizant Softvision

Description Android application for a Nonprofit health system, developed in order to help people make appointments, selecting their favorite doctor, comparing them and getting to the facility they want.

Project role Android Developer

Relevant responsibilities

- Develop new features according to documentation requirements
- Application design
- Create technical documentation
- Unit testing
- Code review

Features

- Complex architecture

- Complex account creation for new user or guest user
- Appointment system for patients
- Compare doctors and select favorite doctors for making an appointment
- Add your insurances and filter doctors by them
- Request an appointment
- Select a doctor, filtering by your location and the doctor's location (find the nearest facility)
- View a doctor's profile

Project   Banking mobile application (3 years-present)

Company   Cognizant Softvision

Description Android application for a major bank listed on Wall-Street

Project role Android Developer

Relevant responsibilities

- Develop new features according to documentation requirements
- Implement Google Pay Provisioning API
- Implement PayPal Integration
- Implement Identity verification
- Application design
- Implement data transfer securely, using ECDSA (Elliptic Curve Digital Signature Algorithm)
- Bug fixing
- Unit testing
- Code review

Features

- MVVM architecture
- Login with two factor authentication
- Transfer Encrypted logs using ECDSA algorithm
- Transfer money
- Open a deposit
- Documents scan
- Make a payment using Google Pay Push Provisioning API

Project   Game of Pods mobile application (6 months)

Company   Cognizant Softvision

Description Android application for a performance gamification platform

Project role Android Developer

Relevant responsibilities

- Develop new features according to documentation requirements
- Application design
- Bug fixing
- Unit testing
- Code review

Features

- MVI architecture
- Login
- Pod functionality
- Functionality of badges & trophies that are the reward system of Game of Pods.
- https://www.cognizantsoftvision.com/game-of-pods/

Project   **Point of Sales (POS) solution** (1 year)

Company   CGI Romania

Description Point of *Sales assistant solution*

- The sales assistant solution supports a high degree of personalization by turning sales assistants into personal shoppers with a 360° view of any customer, which includes their identity, current shopping cart, purchase history, promotional offers, etc., through a tablet. The mobile tool allows customers to benefit from customized advice and a seamless and streamlined in-store experience, increasing the average basket, and enhancing loyalty.
- Ensuring minimum wait times is key to a good in-store experience. The store ops solution improves the store team's responsiveness and enables them to anticipate and fix in-store issues related to customer requests, restocking, etc., quickly, and effectively. For example, a customer can request a different size directly from the changing room by simply scanning the item code. The scanned information is then transmitted to the sales assistant, who can immediately manage the request. The device mobile solutions enable sales teams to provide the best support in real time.

Project role Software Engineer

Relevant responsibilities

Develop a new Graphic User Interface (web page) that has:

- multiselect dropdown (values obtained via Rest from the back end)
- an export button that will trigger the file download (via GET Rest request)
- an import button that will submit form/trigger file upload (via POST Rest requests / multipart form-data)
- loading pop-up while the task gets executed
- one pop-up for result success
- one pop-up if job failed with the list of errors that occurred

- Couchbase queries
- Unit tests with Karma and Jasmine
- Estimation on tasks
- Write technical specifications
- Participate in technical interviews
- Code review

Features

- AI
- Custom GUI (solution supports a high degree of personalization)

Project Resource Planning Application – CGI (6 months)

Company CGI Romania

Description

- Report on projects length and assignation of resources
- Quickly determine the availability of resources.
- Determine the resources that are allocated to projects or resources that are not allocated at all on projects.
- Graphics to show visual representation of the resources and the projects.
- Graphics for representing the people who are no longer in the company and new employees.

Project roles Software Engineer

Relevant responsibilities

- Web Services and Java Application development using J2EE, JSE and Angular 6
- Testing and bug fixing
- Data extract, analysis, and manipulation.
- Team Lead responsibilities:
- Mentoring team member
- Knowledge transfer for new people
- Code review
- Write technical documentation
- Implement features based on functional documentation.
- Participate and sustain technical interviews.
- Code review

Features

- Custom design
- Graphic representation of all projects and resources in percentage

Project   Book reading application (3 months)

Company   CGI Romania

Description Hybrid Mobile Application designed especially for playing epub files.

Project role Cross-Platform Mobile Developer

Relevant responsibilities
- Portability on all mobile devices: tablets, smartphones
- How the offline and connected application works
- iOS application from 11 and from Android 5.1
- Visual options: line spacing, font size, bold, italic, shaded, color transparency, gradient edges etc.
- Toggle Day & Night modes.
- Different ways to change pages including touch, "Search" or "Back" button.
- Navigation by chapter
- Highlight
- Universal access accessible for a child
- Full text search engine
- Player sound: Enrichment of works with recordings (storytelling and music accompanying the reading).
- Import Epub
- Developed entire application - architecture, features, bug fixing, design

Features
- Offline mode
- Audio player for epub files for children
- Import epubs

Project   Streaming Android Application

Company   CGI Romania

Description Streaming Android Application for conferences in CGI

Project role Android Developer

Relevant responsibilities

- Developed entire application - architecture, features, bug fixing, design
- Write technical specifications

Features

- Streaming

Project Android Application for children with epilepsy (StopAD) - CGI Romania
Awarded at *Innovathon 2019* (contest in CGI)

Company   CGI Romania

Description Android Application for children with epilepsy

Project role Android Developer

Relevant responsibilities

- Developed entire application - architecture, features, bug fixing, design
- Write technical specifications

Features

- Detecting seizures
- Use AI (artificial intelligence) in the form/chat to analyze the words to:
    - tell if the patient is depressed or not
    - filter offensive language
- Reduce the number of people who suffer from depression/anxiety
- Help doctors put an accurate diagnosis on their patients
- Serve as a platform where doctors and patients can connect
- Determine whether a patient has major depression, chronic depression or anxiety, based on a test, that can be submitted by them
- Reduce the number of seizures of the people with epilepsy

Project   AudioBook application (Justice System) (1 year)

Company   Savast

Description Hybrid Mobile Application designed for playing law books.

Project role Cross-Platform Mobile Developer

Relevant responsibilities

- Portability on all mobile devices: tablets, smartphones
- How the offline and connected application works
- iOS application from 11 and from Android 5.1
- Visual options: line spacing, font size, bold, italic, shaded, color transparency, gradient edges etc.

- Different ways to change pages including touch, "Search" or "Back" button.
- Navigation by chapter and titles
- Full text search engine
- Player sound
- Developed entire application - architecture, features, bug fixing, design

Features

- Offline mode
- Audio player for law books

Project　　TCB (1 year)

Company　　Taxiul cu Bomboane

Description　Android Application for "Taxiul cu Bomboane" ONG

Project role　Android Developer

Relevant responsibilities

- Developed entire application - architecture, features, bug fixing, design
- Google Play url:
  https://play.google.com/store/apps/details?id=com.aura.popescu.tcb

Features

- Account creation
- Donation option
- Translated in Romanian and English
- Informative purpose for charity

Project　　*PandaSays* Mobile application (>3 years)

Description　Android Application for children with autism

Project role　Android Developer

Relevant responsibilities

- Developed entire application - architecture, features, bug fixing, design
- Google Play url:
  https://play.google.com/store/apps/details?id=com.popesc.aura_lor

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Features

- Predict affective state of the child from his drawings
- Drawing module
- Label Recognition
- Google Text-To-Speech
- Sign language
- Music Module

Project role Scientific Researcher - Institute of Solid Mechanics of the Romanian Academy - Laboratory of Robotics and Mechatronics

Relevant responsibilities

- Developed entire application - architecture, features, bug fixing, design
- Create and train the model for Machine Learning algorithms
- Deployment of the Machine Learning Model

Features

- Machine Learning algorithms to detect children's state and emotions
- The result from the Machine Learning is interpreted by the robot
- Robot interaction with children (Nao, Alpha 1 Pro, Marty)

List of Publications

Papers Published in International Conferences:

1. L. Popescu and N. Popescu, "Machine Learning based Solution for Predicting the Affective State of Children with Autism," 2020 International Conference on e-Health and Bioengineering (EHB), Iasi, Romania, 2020, pp. 1-4, doi: 10.1109/EHB50910.2020.9280194, WOS:000646194100068.

2. A. L. Popescu and N. Popescu, "A critical analysis of the technologies used for development of applications dedicated to persons with autism spectrum disorder," 2020 19th RoEduNet Conference: Networking in Education and Research (RoEduNet), Bucharest, Romania, 2020, pp. 1-5, doi: 10.1109/RoEduNet51892.2020.9324880. WOS:000654265900029

3. A. -L. Popescu and N. Popescu, "Neural networks - based solutions for predicting the affective state of children with autism," 2021 23rd International Conference on Control Systems and Computer Science

(CSCS), Bucharest, Romania, 2021, pp. 93-97, doi: 10.1109/CSCS52396.2021.00023.

Papers Published in Journals:

1. Popescu, A.-L.; Popescu, N.; Dobre, C.; Apostol, E.-S.; Popescu, D. IoT and AI-Based Application for Automatic Interpretation of the Affective State of Children Diagnosed with Autism. Sensors 2022, 22, 2528. https://doi.org/10.3390/s22072528. WOS:000781611200001 (ranked Q2, IF = 3.847)

2. Popescu, A.-L.; Popescu, N. Drawing Interpretation Using Neural Networks and Accessibility Implementation in Mobile Application. Computation Journal 2022, 10, 202. https://doi.org/10.3390/computation10110202. WOS:000894595500001(ranked Q2)

Personal Highlights

- **Professional skills**: passionate about architecture and robotics, able to coordinate a team, clean code, problem-solving, technical writing.

- **Personal skills:** organized, fast learner, strong social skills, always want to improve my technical knowledge.

- Women Regional Ambassador Romania in Cognizant Softvision Company, 2021-Present

Education

- Bucharest Academy of Economic Studies, Marketing and Business Communication, Bachelor, 2010.
- Bucharest Academy of Economic Studies, Marketing, Master, 2012.
- Faculty of Automation and Computers, Computer Science Department, University Politehnica of Bucharest, PhD, 2019-present.