

# NANDITHA VALSARAJ

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## PROFESSIONAL SUMMARY

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Graduate in Computer Science with professional experience in developing, testing, and optimizing applications in Java and C++ on the Android and Tizen platforms.

## EDUCATION

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- **Master of Science, Computer Science**  
The University of Texas at Dallas. (*May 2018*) (GPA: 3.61/4.0)
- **Bachelor of Technology, Computer Science and Engineering**  
Amrita School of Engineering, India. (*March 2014*) (GPA: 9.8/10.0)

## WORK EXPERIENCE

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- **Senior Software Engineer**  
Samsung R&D Institute, India. (*July 2014 - July 2016*)
  - o Analyzed and tuned the S-Health Android application for performance using Valgrind and DT10.
  - o Refactored the UI for performance and for the feature data collection process.
  - o Performed dynamic testing for optimization, performance, and memory usage for the Tizen platform.
  - o Developed applications for the Tizen platform using HTML5, Javascript, JQuery, CSS, C++, and C.

## TECHNICAL SKILLS

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- **Operating Systems/Platforms:** Android (app development), Tizen (app development), Meteor
- **Languages:** C++, Python, Java, SQL, HTML, JavaScript, CSS
- **Tools:** DT10, Valgrind, Jenkins

## ACADEMIC PROJECTS

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- **Semantic Search Application**
  - o Developed keyword based article search using NLP features and techniques.
  - o Used WordNet, Python, NLTK and Solr.
- **Ethereum Voting System**
  - o Developed ethereum voting application using Java and Meteor.
  - o Used blockchain based security to reduce vulnerabilities in payment methods.
- **Security using Keystroke Analysis**
  - o Added a secondary layer of security to a password-based authentication system using keystroke analysis with Gaussian Mixture Models. Dataset containing the keystroke time data of multiple users was utilized to create data clusters to identify the user. Obtained an accuracy rate of 68.5%.
- **Bellabeat Leaf Tracker Security**
  - o Used Wireshark to analyze the IOT device for vulnerabilities in its features and privacy policy conformance.
- **Database Design for Child Day Care Services**
  - o Researched, gathered, and analyzed requirements for designing the database.
  - o Created entity relationship diagram and performed schema normalization.
  - o Developed PL/SQL programs and triggers for the implementation.
- **Content-based 3D Image Retrieval**
  - o Used Point Cloud Library to retrieve a set of 3D images that are best matched with the texture and shape of the input image. Published at: <https://ieeexplore.ieee.org/document/8286478>

## ACTIVITIES

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- **Volunteer**  
CSEdWeek 2019 - Code.org, *December 2019*
  - o Assisted students in learning Scratch, a block-based visual programming language created by MIT.
- **Teaching Assistant**  
The University of Texas at Dallas, *August 2017 - May 2018*
  - o Worked as a teaching assistant for C++ and Javascript labs for undergraduate students.

- **CS Outreach Instructor**

The University of Texas at Dallas, *May 2017 - August 2017*

- o Taught students Alice, JavaScript and C++ in summer camp organized by the CS Department.