HARSHA AGARWAL

harshaag@uw.edu | +1-425-780-8198 | linkedin.com/in/harsha-agarwal1999/ | https://github.com/harsha-aga

EDUCATION

Master of Science in Computer Science & Software Engineering
University of Washington Bothell — Expected Graduation: Dec.2025
Coursework **:** Parallel Programming in Grid and Cloud, Information Assurance and the Secure Development Lifecycle.

Bachelor of Technology in Computer Science & Engineering (GPA – 3.88/4.0)
Vellore Institute of Technology — Jun. 2021
Relevant Coursework **:** Data Structures and Algorithms, Object Oriented Programming, Database Management Systems, Network and Communication Systems, Operating Systems, Digital Logic and Design, System Design, Machine Learning.

TECHNICAL SKILLS

Programming : Swift (Proficient), C++ (Proficient), Java, Python, Kotlin, R.

Back End & Databases : PostgreSQL**,** MySQL, MongoDB, Redis, AWSDynamoDB, Spring boot, AWS Lambda and ECS.

Front End : SwiftUI (Proficient), Vue.js, React.js, HTML, Material CSS, Swift, Kotlin.

Other tools : Apache Hadoop, Apache Kafka, TensorFlow, JIRA, Postman, MATLAB.

SOFTWARE DEVELOPMENT AND ENGINEERING EXPERIENCE

Software Engineer | *Quinbay Technologies (e-Commerce Marketplace)* Jun. 2021 - Sep. 2024

- **Innovated** and **executed key user features** for **Blibli.com** utilizing **Swift**, **SwiftUI**, **Objective-C**, and **in-house APIs** operating **Spring Boot**, significantly **increasing Blibli.com's iOS application click-through rate by 38%** .
- **Constructed user interfaces** for **application pages** applying **MVVM architecture**, **SOLID principles**, and **Cocoa Design Patterns**, collaborating with **cross-functional teams**, resulting in a **16% elevation in user growth**.
- **Streamlined QA processes**, reducing turnaround time by **47%,** and improved testing quality using Xcode's Instruments tool. Integrated accessibility features across Blibli's application for inclusivity and full coverage.
- **Optimized application performance**, achieving 700ms faster page loads by resolving memory leaks and zombie processes.
- **Lead end-to-end SDLC tasks,** coordinated with **cross-functional teams**, conducted **beta-testing**, analyzed **user feedback**, reported **software bugs**, optimized Blibli.com's iOS application functioning by **61%**.
- Implemented MoEngage push notifications with behavioral segmentation and **A/B testing**, increasing user engagement by **25%** through improved click-through rates and session retention.

Software Engineer Intern | *Quinbay Technologies (e-Commerce Marketplace)* Jan. 2021 - May. 2021

- Developed a Swift utility package for Blibli, improving code quality and maintainability while reducing development time by 12%. Refactored existing code using CoreData, API integrations, and Cocoa Design Patterns.
- **Implemented multiple REST APIs** for **authentication**, **database CRUD operations**, **user product search**, and **product detail downloads**, enhancing **data integration**, **system reliability**, and **user interactions**.
- Improved application performance and stability by refactoring logic structures and MVC architecture, resolving bugs and crashes, and reducing technical debt by 30%.

Software Engineer Intern | *Shade6 (Technology Startup)* Apr. 2020 - May. 2020

- **Scaled** a database system to handle 30,000 daily CRUD operations for a state-wide Police Attendance Tracking application, enabling real-time updates from any location.
- Developed a a global UI component library using TypeScript, Tailwind CSS, and HTML to enhance consistency.
- **Communicated comprehensive updates** to the Project Manager, detailing project progress and milestones, while utilizing **Jira** for tracking and documentation to ensure alignment with project goals.

PROJECTS

Augmented Reality (AR) Furniture Visualization App | Swift, SceneKit, ARKit, Blender. 2022

- Developed an iOS app using **ARKit** and **SceneKit** to visualize 3D furniture models in a user's environment. Created 3D model using Blender.
- Enhanced realism with dynamic lighting and shadows, optimized performance for smooth AR experiences, and integrated **CoreML** for intelligent furniture placement suggestions**.**

Music Player based on Sentiment Analysis | Python, TensorFlow, NumPy,Flask, Swift 2020

- Developed a music recommendation system that analyzes text input using NLP and sentiment analysis to suggest songs based on detected emotions.
- Built and deployed a **Flask-based RESTful API** using **NumPy**, hosting it on **Heroku** for accessibility, and integrated a **Swift-based frontend** to enable real-time communication via REST APIs for dynamic song suggestions.

Object Identification using TensorFlow in Deep Learning | Python, Numpy, COCO API, Django 2019

- Created **object identification Model** to identify objects in images positioned at various distances and different angles.
- Model takes images as inputs, converts them to a **numpy array,** and then analyses these images for object detection. It then displays the images with the identified images with the percent accuracy.