

# Ray Simon L. Bantaculo

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## SUMMARY

Computer Engineering student with hands-on experience building full-stack web and mobile applications, RESTful backend services, and embedded IoT systems. Experienced in integrating frontend interfaces with authenticated APIs and databases, developing Flutter and Android apps, and working with microcontrollers and sensors. Motivated to apply engineering principles to real-world systems and continuously improve technical and problem-solving skills.

## TECHNICAL SKILLS

- **Frontend / Web:** HTML, CSS, JavaScript, Next.js, Tailwind CSS, TypeScript
- **Backend:** Node.js, Express.js, RESTful APIs, FastAPI, Authentication (JWT / Sessions), MongoDB, Firebase
- **Mobile:** Flutter, Android (Kotlin, Activities, XML)
- **Programming Languages:** Python, Java, Kotlin, Dart
- **Embedded Systems / IoT:** Arduino, ESP32, Raspberry Pi, sensors, motor control
- **Networking:** Basic TCP/IP, routing, connectivity concepts

## PROJECT EXPERIENCE

### Mobile Application Development

- Developed Flutter and native Android applications with user authentication and persistent login using Firebase
- Integrated Firebase Firestore and Realtime Database for real-time data synchronization
- Implemented dynamic UI components including lists, navigation flows, and form validation
- Diagnosed and resolved UI and backend connectivity issues to improve application stability

### Web Application Development

- Designed and developed full-stack web applications using modern frontend frameworks and RESTful backend services
- Implemented authentication and login persistence using secure backend logic and database integration
- Built responsive and interactive user interfaces with dynamic data rendering
- Developed and consumed REST APIs to support core application features
- Debugged and optimized frontend-backend interactions to ensure reliability and performance

### Embedded & IoT Systems

- Developed embedded systems using Arduino, ESP32, and Raspberry Pi for sensor-based applications
- Implemented motor control and processed sensor data for automation and interaction
- Tested and troubleshooted hardware-software integration to ensure consistent system behavior

## EDUCATION

### University of Science and Technology of Southern Philippines

Bachelor of Science in Computer Engineering

April 2022 - Present

- Thesis on "TANIM: An Intelligent Agricultural Framework for Crop Recommendation and Soil Health Monitoring".

## **ADDITIONAL INFORMATION**

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### **Tools & Technologies**

- **Tools:** Git, GitHub, Firebase, VS Code, Android Studio
- **Databases:** Firebase Firestore, Realtime Database, basic SQL, MongoDB

### **Certifications**

- CCNA: Switching, Routing, and Wireless Essentials.
- LaTex Typesetting Workshop

### **Soft Skills**

- Problem-solving and analytical thinking
- Troubleshooting and debugging mindset
- Willingness to learn new technologies
- Remote collaboration and communication