AJAYA DAHAL

515-735-8373 • https://ajayadahal.github.io/ • https://www.linkedin.com/in/ajaya-dahal-137b94108/ • ajayadahal1000@gmail.com

EDUCATION

Bachelor of Science — Expected Graduation: December 2022
Mississippi State University — Starkville, Mississippi
Major: Electrical and Computer Engineering — MSU GPA: 4.0/4.0

SIGNIFICANT COURSEWORK

Algorithm, Advanced Circuit III, Advanced Java, Computer Architecture, Data Communication, Data Structures, Digital System Design, Embedded System, Microprocessor, Operating System, Sensor Processing for AV, Sensor Fusion 2.0 (Camera and Lidar)

TECHNICAL SKILLS

- **Software:** C/C++, Python, Java, JavaScript, SQL, Android Studio, Backendless, RESTful API, GIMP, Agile Jira
- **Hardware:** Robot Operating System (ROS); 3D printing; 3D modeling in SOLIDWORKS; embedded system design using Arduino, Raspberry Pi, and other MCUs; OrCAD; Altium; Proteus; KiCAD; Quartus Prime; Vivado; LabVIEW; Wireless Insite; PX4; and Renesas's e2 studio.

WORK EXPERIENCE

- **Hunter Engineering Company—Raymond Electronics Plant,** Raymond, Mississippi — 2020-Present

Electrical Engineer Co-Op:
Design functional test fixtures to test PCBs that are manufactured at the plant. Develop an executable operator-friendly program in LabVIEW that can communicate with microcontrollers. Design circuit boards in KiCAD/Altium and create the test fixtures in such a way that they are Aegis Factory Logix compatible. Created C/C++ code integrated with LabVIEW for a database required by quality control. Designed a station for an operator to detect defects in a PCB using camera and OpenCV over the summer semester of 2021.

- **Mississippi State University—Electrical and Computer Engineering,** Starkville, Mississippi — 2019-Present

Research Assistant
Cooperate with researchers in Center for Advanced Vehicular Systems, CAVS at Mississippi State University, enabling technologies such as LIDAR, radars, and low-cost cameras, as well as powerful graphical processing units (GPUs) and the explosion of deep neural networks (OpenCV, TensorFlow) to detect lanes on different roads. Worked on various machine learning and deep learning techniques for sensor fusion for camera and LIDAR mostly using SqueezeSeg and TensorFlow. Work with a team of researchers to develop a cell phone tracking system inside a prison by implementing AI methods to create triangulation to pinpoint the cell phone using machine learning and software-defined radios. Working with a team of researchers from 5 universities and National Instruments in 5G communication system research (using drones) as a Certified Part 107 FAA Drone Pilot. Experimenting with srsLTE/RAN, OAI, and Amarisoft technologies to understand and build 5G and beyond networks.

PERSONAL PROJECTS — 2018-Present

Android Apps
- Created an app that keeps track of local videos that are watched completely. The app consumes Google Search API and YouTube API (1 million quotas). Created another app for real-time temperature monitoring system for old servers using Google Firebase and real-time database.

Robotics
- Built soda can catcher, line follower robot, self-balancing robot using PID controller, and obstacles avoiding robot.

Miscellaneous
- Successfully created a program using Google TensorFlow and its components to detect Darth Vader character from Star Wars in any given picture.
- Designed, simulated, and fabricated various embedded systems like drones, bench power supply, and tire pressure monitoring system using microcontrollers and 315 MHz receivers. Conducted several seminars on topics like analog circuit design, Arduino, and Raspberry Pi.

Phi Theta Kappa Honor Society—Sigma Tau Chapter
- Developed two sections in Blackboard where students can see what events are happening on campus and a list of organizations available on campus.

LEADERSHIP EXPERIENCE

• Team Lead	Senior Design Team—Mississippi State University	2022-Present
• President	*Nepalese Student Association*—Mississippi State University	2021-Present
• Software Lead	*Xipiter Unmanned Aircraft System Integrated Products Team*	2021-Present
• Vice President	*Phi Theta Kappa*: *Sigma Tau Chapter*—El Centro College	2017-2018

AWARD ACCOMPLISHMENTS

- Recipient of Certificate of Excellence ECE 3424 Microprocessors at Mississippi State University — 2021
- Recipient of funding from Mississippi State University for undergraduate research program for deep learning technique for autonomous vehicles. — 2020
- Recipient of a 2020-2021 Mississippi Automotive Manufacturers Association Scholarship. — 2020
- Bonus prize winner of NXP HoverGames Challenge 2: Help Drones, Help Others During Pandemics — 2020
- First runner-up of robotic competition – Dallas Personal Robotics Group. — 2018