

# SAMIR BHATTARAI

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[GitHub](#) | [Linkedin](#)

## EDUCATION

**University of Southern Mississippi**  
Computer Engineering Bachelor's Degree

Hattiesburg, MS  
Aug 2023 - May 2027

## EXPERIENCE

**University of Southern Mississippi | Front-Desk Assistant** Hattiesburg, MS | Jan 10 - Present

- Greet and assist visitors, ensuring a welcoming atmosphere while managing inquiries and scheduling.
- Provide exceptional customer service and administrative support to enhance front-desk operations.

## SKILLS

Programming Languages: C++, Python, HTML/CSS, JavaScript  
Libraries/Frameworks: OpenCV, Keras, Tensorflow, Matplotlib, Pandas, numpy, Django  
Tools / Platforms: VS Code, GitHub, Arduino IDE, Fusion 360, Matlab, CoppeliaSim  
Databases: SQL

## PROJECTS / OPEN-SOURCE

**Vision Bot: Real-time Object Detection & Avoidance | Link** *Esp32 Module, Arduino, Python, OpenCV, YOLO, Arduino IDE*

- Leading development of an autonomous robot using an ESP32 camera and YOLOv9 for object detection
- Designed advanced obstacle avoidance algorithms, improving route efficiency by 88% and reducing collisions with 93% accuracy.

**Classification of Zero-Day Exploitations Types | Link** *Python, Tensorflow, Pandas, Matplotlib, Numpy, Google Colab*

- Used a CNN classifier to classify the Zero-Day exploitations on various companies since 2014 based on the exploitation type.
- Used keras optimization methods to achieve an accuracy of up to 83%.

**Computerized Numerical Controlled (CNC) Printer** *Arduino Mega, Arduino IDE, Tinker CAD*

- Engineered a CNC printer with precise pen mechanism for printing 2D text and images across X-Y axis
- Coded an Arduino-based system to process and print digital inputs onto paper using stepper motors

**Classic Snake Game | Link** *C++, Ncurses Library*

- Developed a text-based Snake game in C++ using ncurses, with refined real-time mechanics and collision detection
- Created an ASCII-rendered game for a retro experience at the terminal

## CERTIFICATIONS

- Modern Robotics: Mechanics, Planning, and Control - **Northwestern University / Coursera**
- Integrated CAD/CAM/CAE - **Autodesk / Coursera**
- Data Analysis with Python - **FreeCodeCamp**
- C++ for Programmers - **Codecademy**

## HONORS & AWARDS

- Presidents List Scholar: Fall 2023, Spring 2024
- LOCUS 2020, 17th National Technological Festival SDG 7 Category 1st Place
- Kathmandu University, Annual Robotics Festival - 2nd Place