



# KAMEESHA RISHI BHAYROO

ELECTRICAL & INFORMATION ENGINEERING  
STUDENT AT THE UNIVERSITY OF WITWATERSRAND

## PROFILE

Motivated Electrical & Information Engineering student with strong interests in software development, embedded systems and digital logic. Combines academic knowledge with hands-on project experience in AVR Assembly, C++, MATLAB, Python and Delphi. Proactive learner with a drive to apply programming and engineering concepts to real-world challenges and collaborate in team working environments.

## PROJECT EXPERIENCE

### Microprocessors I

Arduino Uno Keypad Access Control System

- Developed a keypad-based access control system using a 4x4 matrix keypad, servo motor and LEDs
- Entire implementation in AVR Assembly
- Integrated USART communication for debugging/ feedback
- Controlled servo using PWM on OC1B (PB2)

### Electronics I

Hall Effect Subsystem

- Designed a subsystem using Hall Effect Sensor logic without a microcontroller
- Implemented using a digital logic gates and transistor circuits
- Simulated behaviour in LTspice.

### Software Development I

Reverse 2048 Game

- Created a reverse 2048 variant in C++
- Designed two autonomous AI algorithms to compete
- Emphasized modularity, algorithmic logic and performance

### Signals & Systems I

MATLAB Simulations

- Simulated signal behaviour and transformations
- Plotted and analyzed signals using MATLAB

### Data structures & Algorithms

Text File Based Programming

- Built programs to implement core data structures (lists, stacks, queues, trees)
- Managed input/output via text files in Ubuntu

### Delphi programming

- Ranked among the top students
- Developed a strong foundation in structured programming and problem-solving

## CERTIFICATIONS & COURSES

- C++ from Beginners to Beyond - Udemy (Completed)
- Learn Ethical Hacking from Scratch - Udemy (In Progress)

## CONTACT

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## EDUCATION

2018-2022

RAND PARK HIGH SCHOOL

- Matriculated with a Bachelors Pass

## CURRENT

- 2<sup>nd</sup> year Electrical & Information Engineering Student at the university of Witwatersrand

## SKILLS

- Project Management
- Collaboration
- Time Management
- Leadership
- Effective Communication
- Analytical Thinking
- Adaptability
- Arduino IDE
- Codes::Blocks IDE
- AutoCAD
- Solid Edge
- Ubuntu

## CLUBS & INVOLMENT

Wits Coding & Digital Innovation Club

- Collaborated on Python and group coding challenges
- Improved teamwork, version control and software design exposure