Ethan Meknassi | Junior Computer and Electrical Engineer

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PERSONAL PROFILE

I am a motivated and dedicated fourth year Computer and Electrical Engineering undergraduate student at the University of Cape town. I have knowledge and experience in multiple programming languages which I have used in numerous projects at work shadows and workshops. I grew up in France and have been living in Cape Town since 2016.

CORE SKILLS

- C and C++
- Java
- Python
- Project Management
- Design Engineering
- Linux
- Cyber Security
- SQL
- Data Transfer and Analysis
- AI & Machine learning tools
- Model Predictive Control & Automation
- Anaconda and Jupyter

EDUCATION

- **Bachelor of Science in Computer and Electrical Engineering Degree (2020-2024) |** University of Cape Town | **Cumulative GPA: 72%**
  First year with an average of 83%.
  Second year with a 65% GPA.
  Third year with a 75% GPA, Recipient of Dean's Merit List Academic Achievement Award.
  Fourth year with a 75% GPA, achieving a first class for the final thesis (77%).

- **CS50 Harvard Online Course (2019)** Completed a Harvard online course specializing in C and C++.

- **NSC Matric Certificate (2018) |** Herzlia High School | Matriculated from Herzlia High School with 4 distinctions in Mathematics, Physical Sciences, History and Economics Average: 82%.

WORK EXPERIENCE

Dec 2022 - Jun 2023 Balancell, Cape Town
3 -week Internship

Outline
Designed and implemented a user interface to facilitate the monitoring of battery life and component testing. Conducted evaluations of alternative components, identifying cost-effective and highly efficient options for the company.

Key Responsibilities

- Researching and comparing Raspberry Pi's with microcontroller alternatives (Rock Pi).
- Successfully adapting the company's scripts onto the Rock Pi
- Designing and implementing a user-friendly GUI interface for the company to run tests on battery components to identify faulty components and troubleshoot issues.
- Testing the Electrical component's performance.
- Collaborating with the engineering team by attending project management meetings.

Dec 2021 - Jan 2023 Cognitive Systems, Cape Town
6-week Internship

Outline

Working in technology team of 6 assisting the development of an Object Tracking System which is to be implemented into cameras. Also featured is the devolvement of an application which allowed for the data from the cameras to be gathered on the user's devices.

Key Responsibilities

- Writing functional code for an Object Tracking system using OpenCV and Python
- Installation, configuration and upgrading of an Object Tracking system.
- Diagnosing hardware and software issues of a camera using face recognition software
- Designing, upgrading, and implementing an application on Kotlin allowing the Object Tracking system to be used by the user.
- Development and implementation of an API

Personal Tutor (2017-Onwards)

I have engaged as a tutor for Grade 6 to Grade 12 Mathematics, Physical Sciences and Economics.

ADDITIONAL

Software

KiCad, LtSpice, EasyEDA, MATLAB, Cisco Packet Tracer,Jupiter Notebook, WireShark

Programming Languages

C, C++, Java, JavaScript, Python, SQL, HTML, Kotlin

Languages

Fluent English, Fluent French, entry-level Spanish

Projects (more available on GitHub: https://github.com/EthanMeknassi)

Camera Trap and web interface design:

- Designed and implemented an ESP-32 camera trap system allowing for the monitoring of endangered birds. The creation of a web interface allowing the user to change the position of the camera wirelessly from any device and access all the relevant data gathered by the ESP32 camera.

Data Transfer Microcontroller:

- Designed and implemented software into a sensor device that is monitoring environmental conditions in the Artic Ocean. The software compressed and encrypted the data gathered from the sensor and transmitted it to a computer.

Controls System Engineering Controller design:

- Designed and tested a controller for a mini helicopter. This controller allowed for the mini helicopter to hover at a certain height while also rejecting any possible disturbances.

References

Anet Potgieter - *Cognitive Systems* - anet@cognitivesystems.ai - +27 83 956 9016
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