Daniel **Elabd**

Biomedical Engineer · Electronic and Electrical Engineering

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Summary

Biomedical engineering postgraduate with a background in electronic engineering complementing an interest in the bioelectronics field. Capable of applying technical and business knowledge to engineering problems. Experienced with analogue circuit and PCB design, currently working on designing and fabricating stretchable sensors for physiological monitoring. A multi-disciplinary engineer with experience in programming, AI and robotics. Keen to pursue a career in the technology and product development sector to provide high-end engineering solutions to clients.

Education

Imperial College London — *South Kensington, London*

MSc in Biomedical Engineering - Neurotechnology — *Oct. 2020 - Sep. 2021 (expected)*

- Research Project: Printed Stretchable Sensors
  - Contributed towards the development of stretchable sensors to enhance physiological monitoring and soft robotic sensors
  - Used an 'Allevi' 3D bioprinter to print sensors such as strain gauges with custom-made inks made of elastomers & conductive particles
  - Used lab equipment such as semi-conductor analysers to test device resistance and other electrical & mechanical properties
  - Participated in the Hamlyn Symposium on Medical Robotics 2021 by submitting a **poster** presentation on stretchable sensors.
- Key Modules: Biomimetics, Brain-Machine Interfaces, Neuroscience, Reinforcement Learning, Human Neuromechanical Control & Learning

University College London — *Bloomsbury, London*

BEng in Electronic and Electrical Engineering (First Class Honours) — *Sep. 2017 - Jul. 2020*

- Individual Project: Electrocardiogram Waveform Acquisition
  - Contributed towards the miniaturisation of ECG recording circuitry for more convenient patient monitoring
  - Designed and simulated bioelectronic circuits and designed corresponding PCB schematics
  - Soldered components and performed hardware testing using lab equipment
  - Acquired a range of research skills such as data collection, report writing and critical thinking.
- Group Projects:
  - Participated in over 7 different design and innovation projects involving circuitry, signal processing and programming
  - Developed skills including effective communication, teamwork and problem solving amongst colleagues of different disciplines
- Key Modules: Analogue Electronics, Digital Design, Object-Oriented Programming, Control Systems and Digital Signal Processing
- Minor: Entrepreneurship. Participated in group projects to generate business ideas and implement them as start-ups.

The British School — *Cairo, Egypt*

A-Levels: Physics (A*), Maths (A*), Information & Communication Technology (A) — *Sep. 2013 - Jul 2017*

IGCSEs: 8 (A* - B) including Mathematics, Double Science, English

Industry Experience

Smart Systems Egypt — *Cairo, Egypt*

Systems Designer Intern — *Sep. 2020*

- Responsible for providing high-end security system solutions to clients
- Analysed AutoCAD drawings and determined design of system to provide maximum security to users
- Worked closely with clients to an determine optimum security plan that fulfills the users financial and design requirements.

MARSES Robotic Solutions — *Cairo, Egypt*

Robotics Engineer Trainee — *Jul. 2019*

- Worked with a Control Systems and Mechatronics Engineer to find solutions to hardware problems within ABB robotic systems
- Controlled robotic movement by communicating commands via ROS programming in Linux terminal
- Performed calculations yielding UV intensity and exposure durations that shaped the design of an autonomous UV disinfection robot
- Understood manufacturing processes and company procedures through daily training workshops.

Tuplast SAE — *Cairo, Egypt*

Electrical Engineer Trainee — *Jul. 2018*

- Gained a deep understanding of all the manufacturing systems involved in the production of aluminium medical tubes
- Worked alongside engineers to resolve electrical and mechanical faults in production machinery
- Gained an understanding of the SCADA control systems driving the production machinery
- Modified and enhanced the stock system for the plant warehouse to ensure production requirements are met.

Skills

Programming	Python, Java, C, Embedded C (beginner), MATLAB, LaTeX
Artificial Intelligence	Reinforcement Learning (beginner), Deep Q-Learning, PyTorch
Software Packages	DipTrace (PCB design), Multisim (SPICE), Excel
Languages	English (native), Arabic (native), French (basic)

Positions of Responsibility

Co-Founder & Social Media Manager of the Egyptian Society at UCL — *2019 - 2020*

Youth Leader at St Mark's Coptic Orthodox Church — *2017 - Present*

Scouts Leader in St Paul's Scouts Group — *2019 - 2021*

Volunteer in Egypt's rural areas — *2016 - Present*