Steven Josef Sworowski

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Profile

Software Engineer with a Bioengineering background and strong programming, analytical, and problem-solving skills. Experienced in ophthalmic medical device development and promoted three times at Rayner. Proven record of delivering high-impact projects like RayTrace v4. Passionate about using tech to improve patient outcomes and healthcare tools.

Professional Experience

Rayner Intraocular Lenses (IOL)

Software Engineer (April 2025 – Present)

- Develop and maintain Rayner's digital health software using NestJS, used by surgeons worldwide.
- Implemented analytics with Power BI to monitor platform performance and improve clinical decision tools.
- Enhanced RayTrace IOL calculator by streamlining backend logic and improving UX based on user feedback.

Digital Health Engineer (October 2022 – March 2024)

- Led successful delivery of RayTrace v4, a next-gen IOL calculator with 10K+ monthly calculations globally.
- Managed full development lifecycle: requirement gathering, design, testing, and stakeholder feedback loops.
- Collaborated with surgeons to ensure ease of use and usability for clinical application.

Project Engineer (March 2020 – October 2022)

- Designed Python automation tools that scraped calculations for improvement of algorithms.
- Developed and validated PCA correction algorithm, now part of Rayner's clinical toolset.
- Prototyped RayTrace update in Ruby on Rails environments to test model robustness before production.
- Analyzed postoperative datasets in MATLAB, driving parameter adjustments that improved outcome predictions.
- Hands-on lens manufacturing using lathes and mills.

Internships & Projects

AMRC Medical Division – Summer Intern (July – Sept 2018)

- Designed and prototyped new orthopaedic fixation device; results used to guide follow-up studies.
- Led mechanical testing of prototypes and documented design iterations.

Kingkraft Ltd – Internship (Nov – Dec 2019)

- Created tilt mechanism and latch for a mobility aid; converted prototypes to fabrication-ready CAD drawings.

Education

University of Sheffield – MEng Bioengineering (2015 – 2019)

Classification: 2:1

Key Modules

- 3rd Year: Biomechatronics, Medical Device Design, Scientific Writing, Materials for Biological Applications
- 4th Year: Solid Biomechanics, Bioimaging, Biomedical Imaging, Regulatory Affairs, Sports Engineering

Wath Comprehensive School (2008 – 2015)

- A-Levels: Maths (A), Physics (B), Biology (B), History (C)
- GCSEs: 11 GCSEs including A* in Maths, A in English, and 1 BTEC

Skills & Tools

- Languages: Python, TypeScript, MATLAB, Ruby, HTML, CSS, JavaScript, SQL
- Frameworks/Tools: NestJS, NodeJS, Ruby on Rails, React, Tailwind, Arduino IDE, Ansys, Creo, Fusion 360
- Software: Microsoft Office, Power BI, 3D Printing
- Soft Skills: Teamwork, Problem Solving, Communication, Initiative

Additional Information

- Full clean UK driving licence
- Eligible to work in the UK and EU
- Willing to relocate

Interests

- Home Electronics: Built Arduino/Raspberry Pi projects and 3D printing.
- 3D Printing: Designed smart pots, custom gifts, and mechanical parts.
- Sports: Golf, Football, Badminton, Snooker.

References

Available upon request.