

AARON ALONSO TORRENS, PhD, MSc

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PERSONAL PROFILE

Junior Front-End Developer & Biomedical Scientist (PhD) with a passion for transforming **complex data** into clear, impactful **digital tools**. Currently transitioning into **software development** following a strong career in **biomedical research**, bringing with me the **analytical thinking**, **problem-solving skills**, and **adaptability** developed over years in high-stakes scientific environments. Skilled in **Python**, **Django**, **JavaScript**, **HTML/CSS**, **SQL**, and **data visualisation**, with hands-on experience designing and delivering **web applications** from concept to **deployment**. **Collaborative** by nature and adept at working across disciplines, I thrive in environments where **technical innovation** meets **scientific discovery**.

TECHNICAL SKILLS

- **Front-End & Web Application Development:** Built responsive, user-focused applications using **HTML5**, **CSS3**, **JavaScript (ES6)**, and **Bootstrap 5**. Developed *MedTracker*, a **Django**-based web app with secure authentication, CRUD functionality, and analytics dashboards. Currently upskilling in **React** and **GraphQL** for dynamic data visualisation.

- **Data Visualisation & Interfaces:** Designing **dashboards** for complex datasets, incorporating trend analysis, filtering, and interactive visualisation features. Knowledge of **seaborn**, **matplotlib**, and **Streamlit**; experienced in presenting complex datasets through interactive visualisation.

- **Back-End & Database Management:** Skilled in **Django ORM**, **SQL** (raw queries & schema design), and data aggregation pipelines for healthcare/research analytics. Integrated third-party APIs (**Google Sheets API**, **Cloudinary**) to extend functionality.

- **UX & UI Design:** Proficient in **Figma** for wireframing and prototyping. Applied **mobile-first** and **accessibility** best practices (**ARIA**, semantic HTML, contrast compliance) for inclusive design.

Scientific Data Analysis: Strong background in biomedical data handling, including biomarker profiling, assay results, and statistical modelling. Tools include **Python (pandas, scikit-learn)**, **R**, **GraphPad Prism**, **ImageJ**, and **Spotfire**.

- **Deployment & Version Control:** Deployed full-stack projects to **Heroku** with environment variable management and cloud media hosting. Experienced in **Git/GitHub** workflows, branching, and pull requests for collaborative projects.

- **Project Management & Agile:** Managed multi-phase projects with Agile principles and Kanban tracking. Maintained >95% on-time delivery in high-throughput scientific environments.

- **Collaboration & Problem-Solving:** Partnered with researchers, bioinformaticians, and UX specialists to translate complex datasets into actionable insights and resolve technical challenges.

KEY PROJECTS

MedTracker – Full Stack Medication Management App | [\[GitHub link\]](#) [\[Figma link\]](#)

Python | Django | Bootstrap 5 | HTML5/CSS | JavaScript | SQLite | SQL | Heroku

- Developed a **full-stack application** enabling patients to track medications and side effects, featuring **role-based access control**, **CRUD functionality**, and a **visual analytics dashboard**.
- Designed and implemented a **responsive, mobile-first interface** with **Bootstrap 5**, ensuring **accessibility** and ease of use across devices.
- Created **gender-stratified analytics** and **category-based visualisations** using **raw SQL aggregation**, enabling **data-driven insights** for healthcare contexts.
- Integrated **secure authentication**, contextual tooltips, and **trend reports** for patients and clinicians.
- **Deployed to Heroku** with **environment variable management** and **Cloudinary** media hosting.
- A **Figma prototype** is available to explore all functionalities, as the live project's admin credentials are protected.

Heart Disease Risk Predictor – ML Web App [In progress]

Python | Streamlit | scikit-learn | pandas | seaborn | Jupyter Notebook

- Built an **interactive web app** to assess **heart disease risk** from **patient health metrics** using **machine learning models**.
- Designed **data preprocessing pipelines** for **real-time predictions** in a **Streamlit** interface.
- Trained and evaluated **classification models (logistic regression, random forest)** with **hyperparameter tuning** for **optimal performance**.
- Implemented **data visualisation modules** to display feature importance, **correlation heatmaps**, and **model confidence intervals**.

Super Mario Arcade – Browser Game Collection [\[GitHub link\]](#)

HTML5 | CSS3 | JavaScript | GitHub Pages

Built two interactive browser games (Mario-themed tic-tac-toe and silhouette guessing) with responsive layouts and intuitive navigation.

PhD Pathways – Careers & Resources Site [\[GitHub link\]](#) [\[Figma link\]](#)

HTML5 | CSS3 | Figma | GitHub Pages

Developed a responsive website offering career resources, testimonials, and curated links for PhD graduates transitioning beyond academia. The linked **Figma** shows the latest version of this evolving project.

EDUCATION

Full- stack developer, CodeInstitute, Specialization in predictive analytics and AIJuly 2024 – Present

- **Focus:** HTML5, CSS3, JavaScript, Python, Django, SQL, Agile development.
- **Portfolio:** five fully deployed projects including Medtracker and Heart Disease Risk Predictor.

PhD, Stem Cell Research, University of Edinburgh.....Oct 2018- Feb 2023

- **Thesis:** "Exploring the potential of Neural Progenitor Cells (NPCs) in spinal cord therapies"

MSc, Tissue Regeneration, University of Ulster, Merit.....

BSc (Hons), Biomedical Science, University of Ulster, First-Class Honours.....

MOST RELEVANT EMPLOYMENT HISTORY

Scientist, Artios, Cambridge Apr 2024 - Present

- Built automated **data pipelines in Python/R** improving analysis efficiency by 60%, enabling faster turnaround for results.
- Conducted **quantitative data analysis** of imaging and biomarker datasets, integrating results into **interactive presentations** for cross-functional teams.
- Designed and executed **data-driven** experimental workflows to generate structured datasets for analysis and visualisation.
- Applied **gene-editing technologies** (CRISPR, RNAi, transposons) to evaluate experimental outcomes, ensuring high reproducibility (>90%).
- Produced and maintained **SOPs** and documentation to standardise processes and enable effective **knowledge transfer**.
- Contributed to **technology reviews** and **horizon scanning** to identify emerging tools relevant to R&D innovation.

Field Marketing Representative - Proteintech.....Jun 2022 –Febr 2023

- Delivered **technical presentations** and **workshops** to **100+ researchers**, improving engagement with digital and analytical tools.
- Gathered and analysed **user feedback** to inform strategic improvements to training resources and marketing materials.
- Collaborated across product, sales, and scientific teams to create **data-driven promotional content**.
- Translated complex scientific concepts into **clear, application-focused insights** for diverse audiences.

Intellectual Property Internship - Marks & Clerk.....May 2021 –Aug 2021

- Conducted **technology scouting** and competitive landscape analysis across 50+ companies in **AI** and **biomedical innovation**.
- Compiled **IP landscape reports** and assessed **freedom-to-operate risks** for new products.
- Synthesised research from patent databases, publications, and market reports to create **decision-ready briefs** for clients.
- Communicated technical findings to **non-technical stakeholders**, including IP attorneys and business leaders.

ACHIEVEMENTS

- **Runner-up for the Wilmut Prize Award**, recognizing research and presentation excellence.
- **Conference Presentations:** Poster presentations at BSDB and ISSCR conferences.
- **Bioprocessing Entrepreneurial Skills Training (BEST) Programme Graduate**, focusing on leadership and business development.
- **Dean’s List Award & Ulster University EDGE Excel Award**, highlighting sustained academic excellence.

LANGUAGES

Spanish.....Native speaker

EnglishNative speaker

REFERENCES

Associate Director, Dr Andrew Whale..... andrew.whale@immunocore.com
Immunocore Limited

Professor Valerie Wilson.....+44131 651 9500 v.wilson@ed.ac.uk
The University of Edinburgh

FIRST AUTHOR PUBLICATION

Long-term supplementation with anthocyanin-rich or -poorRubus idaeusberries does not influence microvascular architecture nor cognitive outcomein the APP/PS-1 mouse model of Alzheimer’s disease

Aaron Alonso Torrens et al., INTERNATIONAL JOURNAL OF FOOD SCIENCES AND NUTRITION. NOV 30, 2022