

# John Acton

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## EDUCATION

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### IMPERIAL COLLEGE LONDON

Master of Research in Soft Electronic Materials (Distinction).

London, UK

Sep 2023 - Sep 2024

- ❖ Achieved a programme total of 78.08%, graduating with distinction
- ❖ Awarded the departmental honorarium for highest thesis grade in the cohort, recognising excellence in research quality and communication.
- ❖ Conducted high-throughput modelling and forecasting of photovoltaic materials using Density Functional Theory (DFT) and High-Performance Computing (HPC).
- ❖ Developed structured reports and presented findings to academic and industry associates.
- ❖ Core modules included semiconductor physics, device engineering, and materials characterisation.
- ❖ Thesis: *Computational Discovery of Hybrid Chalcogenide Perovskite Photovoltaics* – delivered the first comprehensive computational analysis of these materials, supporting future synthesis and scaling in renewable energy applications.

### SWANSEA UNIVERSITY

BEng in Materials Science and Engineering (First Class Honours)

Swansea, UK

Sep 2020 - July 2023

- ❖ Graduated with a programme result of 77.47%.
- ❖ Led data-driven experimentation on scalable solar cell materials, building and analysing over 50 prototypes.
- ❖ Developed key skills in computational modelling, experimental design, and technical communication.
- ❖ Modules included Engineering Management, Computational Materials, Materials for Energy, and Software Engineering.
- ❖ Dissertation: *Additive Enhancements for Green Solvent Scalable Perovskite Solar Cells*.

## EXPERIENCE

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### BRIGHTSTOCK FINANCIAL PLANNING

Sep 2024 - May 2025

- ❖ Worked closely with high-net-worth clients (portfolio total >£80 million) to support compliance reviews and documentation for regulatory submissions.
- ❖ Collaborated directly with the Director and Executive Compliance Officer to ensure high standards in client communication and reporting.
- ❖ Designed and prepared annual financial reports summarising client objectives, income and expenditure, assets and liabilities, cost disclosures, and strategic financial recommendations.
- ❖ Built a document analysis web app using Streamlit, Python, and Supabase, integrating LLM-based Retrieval-Augmented Generation (RAG) to allow users to query uploaded reports.
- ❖ Automated multiple internal workflows, reducing manual data handling by 20% and improving the consistency and turnaround time of client reports.
- ❖ Worked cross-functionally with advisors and operations staff to identify pain points and deliver scalable process solutions.

- ❖ Developed and optimised computational models to predict optical, electronic and thermodynamic behaviour of novel photovoltaic materials.
- ❖ Forecasted theoretical power conversion efficiencies up to 18.27% for novel hydrazinium-based perovskites using Python based tools and libraries along with DFT frameworks.
- ❖ Automated screening of multiple compounds using HPC tools, improving throughput of material discovery.
- ❖ Produced structured reports and technical briefings to support publication and future synthesis efforts.
- ❖ Delivered insights with direct relevance to low-carbon energy applications and material supply-chain feasibility.
- ❖ Represented the first comprehensive computational report on hybrid chalcogenide perovskites, opening new avenues for the development of highly efficient, stable, and environmentally friendly photovoltaic materials.

## TECHNICAL SKILLS

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### ❖ **Programming & Data Tools**

Python (Pandas, NumPy, Matplotlib, SciPy, Statsmodels, PyTorch, Yahoo Finance, Alpaca, Streamlit), SQL, Excel, PowerPoint

### ❖ **Automation & AI Tools**

n8n (self-hosted), Langflow, OpenAI APIs, Playwright, DataStax, Hugging Face, Slack bot integrations

### ❖ **Modelling & Scientific Computing**

DFT (VASP, Gaussian), Computational Materials, HPC infrastructure, Matlab, Fortran

### ❖ **Other Tools & Platforms**

Unix/Linux CLI, LaTeX, GitHub, Airtable, Make.com, Power Query

## ADDITIONAL

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- ❖ **Analytical Problem Solving:** Strong track record of approaching challenges from first principles and building scalable, efficient solutions.
- ❖ **Communication:** Able to explain technical and analytical findings in a clear, structured way for both technical and non-technical audiences.
- ❖ **Team Collaboration:** Experience working across technical and business functions in both research and client-focused environments.
- ❖ **Commercial Awareness:** Keen interest in consulting, sustainable technologies with a particular focus on energy, automation, economic modelling, AI automation and global commodity trends.