## Contact

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www.linkedin.com/in/danielhalwell (LinkedIn)

## Top Skills

Large Language Models (LLM)

OpenAI API

Anthropic API

## Certifications

Docker

Member of the Royal Society of Chemistry

IBM RAG and Agentic AI

Microsoft Python Development

## Publications

Impact of the Extraction Technique on data obtained for Nasal Product Booklet Labels

Relationship between Human Taste Perception and the Persistence of Umami Compounds in the Mouth

# Daniel Halwell

Senior Analytical Scientist | AI Solutions Developer (CoDHe Labs)
Northwich, England, United Kingdom

## Summary

At AstraZeneca, my focus has been on pushing the boundaries of analytical chemistry, particularly in the realm of extractable and leachable (E&L) studies. With over three years at AstraZeneca and previous experience at Recipharm, I have honed my expertise in non-routine analysis, project management, and providing technical support for GMP inspections.

My role integrates a deep understanding of analytical techniques with a strategic approach to quality control. Expertise in data science empowers my analytical capabilities, ensuring meticulous attention to detail and adherence to regulatory standards. This unique combination of skills has been pivotal in managing intricate E&L assessments and method development, contributing significantly to our team's success in delivering safe and effective pharmaceuticals.

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## Experience

**AstraZeneca**
Senior Scientist
May 2021 - Present (4 years 5 months)
Macclesfield, England, United Kingdom

AstraZeneca | Senior Scientist
Full-time | Macclesfield, England | Jan 2021 - Present

Performing analytical method development and validation for drug substance and drug product analysis using advanced chromatographic techniques (UPLC, GC, MS and MS/MS) for trace analysis (Nitrosamines). I also specialize in providing digital support using Python, for machine learning, data visualization and Generative AI.

Key Achievements:
- Developed ML models (XGBoost, Neural Networks) for chromatographic prediction

- Built REST APIs using Python/FastAPI for analytical data integration
- Developed RAG chatbot for laboratory knowledge management.
- Bayesian optimization to streamline analytical workflows

Technologies: HPLC, GC-MS, LC-MS/MS, Python, SQL, Machine Learning, Statistical Analysis, Generative AI, LLM's, RAG, Copilot Studio

## CoDHe
AI Engineer
July 2025 - Present (3 months)
Northwich, England, United Kingdom

CoDHe Labs | AI Engineer Advisor
Part-time | Remote | Jul 2025 - Present

Providing AI advisory services in my spare time to help organizations implement artificial intelligence responsibly and effectively.

Key activities:
- Generative AI implementation (RAG systems, chatbots, automation)
- Pro bono AI consulting program for UK charities and non-profits
- ML model development and data analysis

Technologies: Python, TensorFlow, PyTorch, OpenAI APIs, LangChain, FastAPI, SQL
Industries: Healthcare, Pharmaceuticals, Non-profit, Professional Services

## Recipharm
Analytical Specialist
September 2016 - May 2021 (4 years 9 months)
Northwich, England, United Kingdom

Perform non-routine analysis and assessment of investigation materials, such as plastic or powder identification. On-site liaison for extractable and leachable (E&L) assessments, providing project management support for E&L studies.

Perform and provide technical support in method transfers, method development and validation. Provide technical support for regulatory questions or actions arising from GMP inspections (MHRA & FDA etc).

## Sanofi
4 years 1 month

### Senior Quality Analyst

July 2015 - September 2016 (1 year 3 months)

Senior quality analyst with emphasis on testing metered dose inhaler products. Responsibilities consist of routine testing, non-routine analysis, finished product batch release and CAPA management. Additional experience testing by GC-FID using static headspace.

Deputised for line manager to gain additional experience with the day to day running of the team

### Quality Control Analyst

September 2012 - July 2015 (2 years 11 months)

Cheshire

Routine testing of nasal spray product. Role includes analysis via HPLC, Infra Red, Titration, Osmolality and thin layer chromatography

### Mars Petcare

Summer placement - Research Assistant

June 2011 - August 2011 (3 months)

Summer project working on a research project for the business. Project scope was to develop Umami gels using MSG and IMP and determine a link between perception of flavour and actual concentration of compounds in the mouth. Experienced gained in sensory analysis using FIZZ software and also analytical techniques such as direct injection mass spectrometry using triple quad mass analyser (MS/MS).

### Mars Petcare

Industrial Placement, R&D Scientist

August 2009 - August 2010 (1 year 1 month)

Industrial placement as part of my degree, working in the analytical lab gaining experience using equipment such as LC-MS, GC-MS and GC-FID.

Performed organic chemistry research into the chemical interactions during the cooking of foodstuff to increase the formation of key flavour compounds. Assisted in the pilot scale production of food products with new formulations and taken through to sensory trials and interpretation of results

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## Education

Loughborough University

MChem, Chemistry · (2007 - 2012)

## Coursera
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## DataCamp
Certifications, Data Science · (March 2022)

## Codecademy

## Zero To Mastery Academy
Data Science, Machine Learning and Cybersecurity