# Max Williams, PhD

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## SUMMARY

Results-driven Python Engineer with 3+ years of experience in delivering comprehensive back-end trading and operations software solutions. Proven track record in executing full project lifecycles from requirements analysis to production release. Serving as Scrum Master, adept at coordinating Agile processes for a 7-member team, fostering collaboration and continuous improvement. Proactively manage team infrastructure and drive improvements in deployment automation and testing. Active in firm-wide modernisation working groups.

## EXPERIENCE

- **Nomura International** — London, UK
  *Associate Software Developer* — *Dec 2022 – Present*
  - Analysis, design, implementation and release of prioritised projects across structured rates and risk.
  - Scrum master for a global team of 7 developers. Improved sprint task completion rates to greater than 75%, thereby improving accuracy of delivery timelines provided to stakeholders.
  - Platform team-representative for modernisation working group. Showcasing CI/CD and deployment offerings.
  - Planned and executed a validation mapping engine rewrite, improving performance by 600%, with release of the new functionality supported by a suite of back-testing, integration and unit-testing functionality.
  - Rewrote and re-platformed legacy trade rebooking process into containerised python. Improved performance by 30% and decreased production issues through robust error handling and improved observability.
  - Project lead for trade validation library, incorporating automated unit-testing, CI/CD and SDLC workflows. System design, discussions and implementation of a decoupled, service-based architecture in parallel.

- **Wiley Edge (formerly mthree) — on-site at Nomura** — London, UK
  *Python Engineer* — *July 2021 – Dec 2022*
  - Development of features, regulatory requirements, bug fixes to global risk and structure rates front- and back-end systems within an agile framework.
  - Analysis, project management and implementation of business-prioritised projects.
  - Containerised a critical, legacy VB6 application from proof-of-concept and built out the team's first Linux infrastructure for hosting containerised processes. Manage and support wider team's containerisation pipelines.

- **University of Bristol** — Bristol, UK
  *Postgraduate Researcher/PhD Candidate* — *October 2017 – Mar 2022*
  - Implementation of scientific theory into a new kinetic Monte Carlo model using FORTRAN08.
  - Data analysis of model outputs and generation of model inputs using Python.
  - Assisted students in design and troubleshooting of numerical simulations implemented in Python.

## PERSONAL PROJECTS

- **2018: IMPRESSION**: Online submission of molecules to machine-learning NMR shift prediction model.
- **2022: Gambit**: RESTful API to identify whether a chess game contains a recognised gambit.

## EDUCATION

- **University of Bristol** — Bristol, UK
  *PhD, Computational Chemistry* — *Oct. 2017 – Mar. 2022*

- **University of Warwick** — Coventry, UK
  *MSc Diamond Science and Technology, 1st Class Honours* — *Oct. 2016 – Oct. 2017*

- **University of Bristol** — Bristol, UK
  *MSci Chemical Physics, 1st Class Honours* — *Oct. 2012 – Jul. 2016*

## PROGRAMMING SKILLS

- **Languages**: Python, VBA          **Technologies**: Git, DevOps, Linux, Docker, Jenkins, Kubernetes

## OTHER SKILLS

- **Languages**: English (Native), Norwegian (B1-Learner)