



## Professional CV

### Key Qualifications:

### Key Experience:

## ADAM CURETON

MEng in Chemical Engineering, Lancaster University, 2020

Adam has graduated with 1<sup>st</sup> Class degree, he has been working on the projects such as: Transient thermal stress analysis of a Main Steam Isolation valve; Numerous hanger support audits; Research into the treatment of irradiated graphite waste coming from UK AGRs; Referral support for FAC inspections and MAT calculations using PD5500 design codes; Modelling neutron impact damage in the breeder blanket of a nuclear fusion reactor. He has also been exposed to multiple aspects of process engineering and plant design through smaller projects throughout the course of his degree. Parts of the course relating specifically to the nuclear industry included modules such as *advanced process transfers*, *chemical engineering design and safety*, and *nuclear fuels and energy conversion* relating to the Uranium lifecycle and its production/use in reactors.

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### Graduate Engineer

Engineering Analysis Services Limited (EASL), Altrincham

September 2020 - Present

Numerous projects completed as part of the job, including;

- Working to follow up on a post-hot hanger survey completed by Doosan on the Heysham B Nuclear power station. Work included compiling the hanger survey data and producing an audit list to take to station for examination. This allowed a comparison with historical data to identify and recommend remedial action that may need to be taken. Finally the report was produced to display the findings and document the results for reference in future surveys.
- A Finite Element, unit load and thermal, analysis was completed on a Main Steam Isolation Valve in the UK HPR1000 reactor design, currently planned to be constructed at Bradwell-on-Sea, in order to produce stresses to be used in a defect tolerance assessment. Work included applying loads to the fully meshed model, provided in abaqus, and running the analysis as well as calculating heat transfer coefficients for thermal transients and completing a thermal stress analysis. Work was also done to compile and extract the stresses through python scripts before originating an issue 1 report to the requesting party.
- Conducting research into the possible treatment methods of the large amounts of irradiated graphite waste that will arise as a result of UK AGR decommissioning. This involved a period of research and construction of a professional white paper outlining the possible routes to final disposal. Finally a conclusion was drawn indicating the likely path that will be followed in the UK.
- Attending Torness power station to carry out a hanger survey audit on several lines of pipework during the statutory outage. Following this the results of the audit were compiled and analysed for any recommendations that needed to be presented. These recommendations were then presented in an EAN and issued to the client.
- Providing outage support as a main originator of FAC referrals arising from the Torness statutory outage. Referrals involved originating MAT calculations for several pipe geometries and turning around a referral response sheet within tight timescales. MAT calculations were produced utilising different standards and design codes such as PD5500 and BS 1501.

### Student project engineer

New Britains Oils, Liverpool

17<sup>th</sup> July 2018 – 21<sup>st</sup> September 2020

- In the summer of 2018, I undertook a 10-week paid work experience placement at Europe's first ever dedicated sustainable palm oil refinery owned by New Britain Oils in Liverpool. I took charge of the integration of a new bespoke software system being implemented in the Boxed Fats and



Pastry Margarine Plant. My role was to test and snag the software following its factory acceptance test and develop training aids for when the project goes live.

- My secondary task was also to review and update the warehouse labelling system by researching current methods used in industry as well obtaining price estimates to compile into a future action report. This labelling review saved the company at least £1500 of initial expenditure while simultaneously drastically reducing maintenance costs.
- Paired with this I also had the opportunity to gain some first-hand experience in the oil refinery liaising with the refinery and lab technicians and engineers to gain an insight into the workings of the modern large-scale processing plant.

#### **Personal qualities:**

#### **Project completion**

Working independently on a goal driven nuclear fusion research project allowed me to manage my own time, set my own targets and drive tasks to completion. To achieve this, I created a plan of action that was specific enough to keep the project on track but also allowed time for unforeseen delays. The project has allowed me to gain technical research skills and document production in the form of a literature and gate review. The project has involved complex molecular dynamics simulations using GULP and LAMMPS code to model the structural integrity of a nuclear fusion breeder blanket in the Linux OS.

#### **Teamwork**

This skill is at the heart of many engineering projects and was required extensively during my University 3<sup>rd</sup> year group project when our 5-person team was reduced to 4 late in the project. The project deadlines still had to be met to the same degree of success, so we combatted this by communicating the need for additional meetings and discussion to split the remaining work evenly and helping each other ease the workload where possible. I suggested the use of multiple planning tools such as Gant charts and progress meetings in order to ensure the project was delivered on time. The 5-person project was completed between the 4 members and a good grade was achieved.

#### **Business Communication**

The implementation of a bespoke software system at New Britain Oils resulted in the opportunity for the system to be optimized and integrated throughout all parts of the business. This required extensive communication and reviews through the different departments that make up a refinery plant. I organized multiple meetings throughout the business so that people could effectively outline their needs while I clarified the restrictions of the software so that the business fully understood how the system could benefit them. This resulted in a system that was tailored to all parts of the business, but still worked as a cohesive unit.

#### **Technical Engineering skills and Drive**

My University studies have exposed me to many aspects of engineering to allow me to gain an understanding of the Electronics, Mechanics, Chemistry and Mathematics. The complex and time-consuming nature of the subjects and projects has improved my professional drive and technical decision making which combined with time management and planning has allowed me to complete my degree to a 1<sup>st</sup> degree Level. Since joining EASL I have been exposed to numerous different technical tasks covering a wide variety of structural engineering principles. As well as this working towards my SQEP 0 roll code has allowed me to solidify my strength and materials knowledge.

#### **Leadership and Motivation**

This year I have also been appointed club captain of the 100-member strong college football club. This involved coordinating the advertisement and implementation of trials for up to 150 students and organizing the finances and scheduling of fixtures. The advertisement was so successful that I have pioneered the inclusion of the college's first ever 5<sup>th</sup> team to accommodate for the demand and increase the financial stability of the club by encouraging more members to join. This was accomplished while simultaneously adopting the role of college darts team captain which challenged my motivational and scheduling skills to still allow time for my degree.