GRAINNE DONEGAN

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Profile

I am a driven, detail-oriented **Design Automation Engineer**, who focuses on creating **application tools to automate**, standardise and streamline design processes. I work with various technical departments to ensure automated practices are cost-effective, value-added, and efficient. I am a **team player** who **thrives under pressure** and enjoys learning new technical skills. The latter is evident in my part-time studies at University College Dublin, where I am completing a Diploma in Full Stack Development, to enhance my **programming skills**, which complement my **CAD** and **Design experience**.

Experience

Design Automation Engineer

June 2022 – Present
Liebherr Container Cranes, Killarney, Co, Kerry, Ireland

- Sole engineer focused on **automating the mechanical and design engineering** departments.
- Working closely with Production and IT departments to **integrate engineering source data** with various **downstream functional data**.
- **Creating the framework for future integration** architecture across the entire company – focusing on **Creo, PLM** and **ERP** incorporation with all department stakeholders.
- Utilising **Python** daily, along with **SQL,** to write automation programming scripts.
- **Project Management** experience on an automation project with Production – focusing on obtaining data from **Creo** CAD package and feeding it directly into CNC machines.

Graduate Mechanical/Structural Engineer

May 2021 – June 2022
Liebherr Container Cranes, Killarney, Co, Kerry, Ireland

- Responsible for programming the automation scripts for a new beam & boom crane model using Python.
- Utilising Creo CAD package to **create standard parts and features** for design.
- Introducing new software, such as Creoson, to **increase efficiency** and reduce time spent creating Creo models and accompanying drawings.

Data Analytics Research Intern

June 2020 – September 2020
Marine and Renewable Energy Institute, Ringaskiddy, Co. Cork, Ireland

- Investigated the impact of COVID-19 on mobility using **Python and applying statistical methods**.
- Developed **Data Analytics** skills by using **Pandas** and **Numpy** Python libraries.
- Broadened **communication skills** by working from home and communicating via platforms such as Zoom and Slack, as well as presenting the project to other researchers.

Undergraduate Structural Engineer

May 2019 – September 2019
Liebherr Container Cranes, Killarney, Co, Kerry, Ireland

- Developed **ANSYS Mechanical** and **Finite Element Analysis (FEA)** abilities.
- Enhanced **VBA** and **MS Excel** skills, while conducting crane **simulations**.
- Responsible for both issuing **reports** to clients according to specifications and **creating memos**, which were used in the manufacturing of cranes.

Education

- **Diploma in Full Stack Development – University College Dublin (UCD)**
  May 2022 – Present
- **B. Eng in Civil, Structural and Environmental Engineering – University College Cork (UCC)**
  September 2017 – May 2021

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github.com/Grawnya

Relevant Projects

Full Stack Development Diploma Projects
May 2022 – Present

- Application which uses the Spotify **API** to generate song recommendations for comparison to self-generated recommendations.
- **Python GUI application** to randomly generate meal suggestions based on dietary requirements, integrating with an API.
- **Data Analytics** song recommender project, using Python libraries such as pandas.
- **Vanilla JavaScript** Hangman application on a static website.
- Static **HTML/CSS** website of South Kerry Greenway with focus on responsive design.

Formula Student UCC Team Principal
September 2019 – April 2021

- **Set up the team**, making it the university's first ever competitive engineering team.
- Worked on both the operations and engineering teams, dealing with UCC and sponsors.
- Developed **Computational Fluid Dynamics (CFD)** and **FEA** skills when working on the chassis and aerodynamics elements.
- Liaising with Formula Female, Motorsport Ireland's initiative to promote the involvement of women in motorsport.

Final Year Degree Dissertation
September 2020 – April 2021

- Based on "Analysing the Impact of the COVID-19 Pandemic on Human Mobility Nationally and Internationally using Data Generated from ICTs" - generating a detailed report; obtaining a 1.1.
- Exercised **Python** and **Data Analytics** skills by examining the mobility datasets produced by Google and Apple in the comprehensive investigation.

Undergraduate Degree Programming Assignments
September 2017 – December 2019

- Developed both **C#** and **MATLAB** skills in undergraduate degree programming modules, obtaining 96% overall in Engineering Computation and Problem Solving.
- Worked as a **professional programming tutor** at the university for the following year.

Structural Engineer at Team Éirloop
June 2019 – November 2019

- Worked on **chassis design** for "Team Éirloop" in 2019, Ireland's representative team at the SpaceX Hyperloop Design Competition.
- Developed **FEA** skills, using **ANSYS Workbench**, when analysing the entire Hyperloop pod.

Skills

Technical

Programming Languages	
Language	Skill Level
Python	Advanced
SQL	Advanced
HTML	Advanced
CSS	Advanced
JavaScript	Intermediate
Bootstrap	Intermediate
MATLAB	Experience with

CAD/Simulation Technologies	
Software	Skill Level
Creo	Advanced
Solidworks	Intermediate
AutoCAD	Intermediate
Revit	Intermediate
SimScale	Intermediate
ANSYS Classic/Mechanical	Intermediate
ANSYS Workbench	Intermediate

Other

- Intermediate **German** with an **Irish Passport**
- Full **Driving License**
- Strong **Communication** and **Public Speaking** Skills
- Excellent **Organisation** and **Time Management** Skills