

James R Booth

PROFFESIONAL SUMMARY

Data professional with 10 years experience in Process & Manufacturing Engineering. Strong experience in systems engineering, project management and statistical analysis. 2+ years experience with Python & SQL. Experience with Django front end development. Background in Electronics hardware manufacturing and PCB design.

WORK HISTORY

Data Engineer, jbooth.dev: November 2022 – Present

- Built ETL system for IoT application with MQTT & AWS IoT Core
- Built system for analysing large data sets for iMBD film ratings with PySpark
- Built linear regression model for house price predictions using Sci-kit learn
- Built data visualisations for Formula 1 race data with Tableau
- Analysed financial and healthcare data with MySQL & PostgreSQL
- Built portfolio website to showcase work with Django, projects are regularly added

Senior Process Engineer, Microchip Technology: November 2021 – November 2022

- Built ETL system for extracting, wrangling, and storing manufacturing data using Python & SQL.
- Built manufacturing KPI dashboard for OEE with Django & Plotly.
- Built tool to migrate legacy data from Excel spreadsheets into Microsoft SQL Server.
- Built Django web apps for updating manufacturing tool inventory.
- Introduced git version control on site
- Built Python apps to support manufacturing such as barcode scanners
- Carried out hypothesis testing for introducing new manufacturing materials and process tooling, utilising chi-squared, ANOVA, and linear regression.

Process Engineer, Rockley Photonics: January 2021 – August 2021

- Used Jupyter notebooks to program machine vision system for silicon wafer mapping
- Improved Cognex image detection through hypothesis testing and design of experiments using Minitab & Python
- Built ETL pipeline to log machine data to PostgreSQL server

Research Engineer, The Manufacturing Technology Centre: January 2018 – December 2020

- Project managed various grant funded projects
- Carried out statistical analysis for manufacturing improvements on customer site visits

Senior Engineering Technician, Dynex Semiconductor: July 2013 – December 2017

- Responsible for process improvement using statistical and six sigma methods

EDUCATION

- BSc (Honours) Economics & Mathematical Sciences (*in progress, graduation 2026*) – *The Open University*
- Certificate of Higher Education in Economics and Personal Finance – *The Open University*
- BTEC Higher National Certificate in Electrical & Electronic Engineering – *Lincoln College*
- BTEC Diploma in Electrical & Electronic Engineering – *Lincoln College*
- BTEC Advanced Certificate in Electronic Engineering – *ICS learn*
- Time Served Apprenticeship

CERTIFICATIONS

- ILSS Six Sigma Green Belt
- AWS Cloud Practitioner
- PRINCE2 Foundation

PUBLICATIONS

- J. Booth et al., "High Reliability Large Area Substrate Solder Interconnect by Embedded Mesh Technique," PCIM Europe 2017; International Exhibition and Conference for Power Electronics, Intelligent Motion, Renewable Energy and Energy Management, Nuremberg, Germany, 2017, pp. 1-7.
- Y. Wang, J. Booth et al., "Development of High Thermal Performance Automotive Power Module with Dual Sided Cooling Capability," PCIM Europe 2017; International Exhibition and Conference for Power Electronics, Intelligent Motion, Renewable Energy and Energy Management, Nuremberg, Germany, 2017, pp. 1-5.
- J. Booth, K. Vijay, P. Mumby-Croft, M. Packwood, K. Evans and A. Dai, "Novel Technique to Reduce Substrate Tilt & Improve Bondline Control between AlN Substrate and AlSiC Baseplate in IGBT Modules," PCIM Europe 2016; International Exhibition and Conference for Power Electronics, Intelligent Motion, Renewable Energy and Energy Management, Nuremberg, Germany, 2016, pp. 1-8.



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SKILLS

- Python
- SQL
- Pandas
- Plotly
- Spark
- Sci-Kit Learn
- Tableau
- Git
- AWS
- Big Query
- Linux
- Minitab
- Project Management
- IoT
- Jupyter Notebooks
- Systems Thinking
- Data Visualisation
- Storytelling with Data
- Power BI

PERSONAL

- Open University Student
- Raspberry Pi Enthusiast
- Scuba Diving (BSAC Sports Diver)
- Ghost Fishing UK (Ghost Net Recovery)
- Running
- Photography
- Economics