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Next availability: Jan 2024. Primarily interested in project-based server/systems programming or devops contract roles in the 6-18 month range in Ireland. Based in Dublin, open to remote work.

### **May 2022 – Jul 2023: Programmer (Contract), client: Millennium**

On finance technology team developing ETL processes for transfer of bitemporal financial data from a central portfolio accounting system to data warehouse for web api provision and on-demand reporting. Migration of deployment of ETL processes to containerized CICD on cloud-hosted k8s cluster service.

*Key technologies: Python, PostgreSQL RDBMS, SS&C Advent Geneva, AWS Cloud, Kubernetes, Containers*

### **Apr-Oct 2021: Programmer (Contract), client: Bank of America**

Backend and frontend enhancements to internal-facing global market risk data ETL, API provision, and reporting systems.

*Key technologies: Python, DB2 SQL RDBMS, distributed object database, Javascript, OpenFin, React*

### **2020: Freelance and Personal Projects**

In light of 2020 pandemic, took year out to work primarily on personal and minor freelance projects.

### **Sep 2018 - Sep 2019: Programmer (Contract), client: Bank of America Merrill Lynch**

Enhancements to distributed and highly available FX post-trade system and supporting infrastructure, improvements to CI/CD processes, and internal-facing data reporting projects.

*Key technologies: Java, Spring WebFlux, Swagger, Postman, Cloudera, Python, Airflow, Jenkins CI, Ansible, Linux*

### **Jan-Feb 2017, Apr-Oct 2017: Programmer (Contract), client: Houses of the Oireachtas**

Adaptation for concurrent execution and parallelization of ETL processes for ongoing web project. MongoDB to PostgreSQL data stack migration. Directed acyclic graph based workflow design for time-partitioned data integration of document database sources. Bulk load to Elasticsearch for presentation via public REST API. Architectural reviews. Parameterized clustered linux systems deployment. Mentoring of student junior developer on CRUD data maintenance web app summer project.

*Key technologies: Airflow, Celery, Python 3, SQLAlchemy, Alembic, Ansible, Elasticsearch, PostgreSQL with btree\_gist, Mongoddb, Flask, RHEL, Linux*

### **2015-2016: Programmer, Ammeon Limited**

On a team developing model-based automated configuration management (orchestration) utility for linux-based HA clusters, used for a java-based telecoms network management solution, including work on parallelization of the utility's deployment and upgrade functions. Resolution of memory and concurrency issues including deadlock diagnosis and prevention in existing multithreaded code.

*Key technologies: Python, CherryPy, Celery, SQLAlchemy, Alembic, PostgreSQL, Puppet, Maven, Jenkins CI, Gdb, Valgrind Helgrind, RHEL, Linux*

### **2014-2015: Systems Programmer, Squared Financial Services Limited**

Financial trading systems development and systems integration. Product-based planning, issue management. Server-side clustered async Java programming with various industry-specific APIs and protocols, with secure frontend webapp with reactive js/html5 UI. Python glue code and devops tasks.

*Key technologies: DB2, Java, RxJava, Vert.x (distributed actors), Hazelcast (in-memory data grid), WebSockets, jsse crypto/security, Datatables, Jython, CPython, JUnit, Ansible, Maven QuickFIX, QuickFIX/J, Linux*

**2012-2013: Systems Administrator, Squared Financial Services Limited**

Financial systems and network administration. High availability linux clustering. Systems and services virtualization. Second-site (Dublin/London) backup and disaster-recovery architecture and deployment. In-house CA infrastructure. Replicated directory services integration. Development work on FIX protocol bridge to legacy financial software.

**2009-2011: Systems Programmer, Irish Centre for High End Computing**

Development of a web interface for researchers using HPC systems, and misc. HPC systems administration and staff and end-user support as-needed.

**2007-2008: Freelance IT / R&D (self-employed)**

Worked on a range of software projects and volunteer feature enhancements for open source projects.

**2004-2007: Cluster Manager with Cosmogrid Consortium, DIAS, Ireland**

Managed batch-processing linux clusters in DIAS (32 cores) and UCD (256 cores), used by researchers in astrophysics, geophysics and meteorology. The clusters were connected into the wider Irish (Grid-Ireland) and European (EGEE) computing Grid.

**2002-2003: IT Consultant with ESBI Computing, Dublin, Ireland**

On team offering services primarily within internal market of the ESB. Training in management consultancy and business process analysis, working on projects such as resolution of IT issues associated with business separation into state-regulated and unregulated units and a management information system for an eastern european environmental agency.

**2001: Programmer with "Javocado", Stanstead, England**

Java development for small startup working on web-based interaction with financial live data feeds

**2000-2001: Programmer/Analyst in the ESB, Dublin, Ireland**

Developed a "secure extranet" java application for controlled web-based access to mainframe-stored privileged information across organizational borders for the assessment of social benefit claims.

**1999: Final year group and individual engineering design projects**

Group project consisted of the design, construction, and racing of a four-wheeled human powered vehicle, and individual project consisted of simulation of an aerodynamic bodyshell for the vehicle.

**1997-1999: Socials technician at Hulme Hall**

Technical management for social events with attendances of 500-600 people at a Manchester University student hall of residence.

**EDUCATION**

**1996-2000: MEng. Hons. Mechanical Engineering (2:2), UMIST, England**

*Subjects studied included:* Industrial management and economics, Impact engineering, Computational fluid dynamics and solid mechanics, Thermodynamics, Mathematics, Automatic control, Electrical engineering, Dimensional analysis, Information technology, Computing, Materials, Manufacturing technology (and more...)

**1990-1996: The King's Hospital, Palmerstown, Dublin 20, Ireland**

Irish Leaving Certificate 1996: 5 A, 2 B, 1 C, higher level.  
Irish Junior Certificate 1993: 6 A, 3 B, higher level.  
Speech and Drama training: Honours (82%) at R.I.A.M. Grade 8  
Participated in French and German language exchange programmes.