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Presently primarily seeking systems programming contract roles in the 6-18 month range in Ireland in line with experience, though opportunities to learn new cutting-edge technologies in general naturally of interest.

## **EMPLOYMENT HISTORY**

### **Jan-Feb 2017, Apr-Oct 2017: Programmer, Houses of the Oireachtas**

ETL development for ongoing web project. Adaptation for concurrent execution and coarse-grained parallelization of ETL processes by time-partitioning and directed acyclic graph based workflow design. Time-interval based data integration of disparate document database sources into rapidly updated reporting database and onward via bulk load to Elasticsearch for data presentation via public RESTful API. MongoDB to Postgresql data stack migration and establishment of relational schema evolution facility. Architectural reviews for in-house implementation and eventual cloud migration. 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, MongoDB, Flask, RHEL, Linux*

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

On a team developing model-based automated configuration management (orchestration) utility for linux-based HA clusters, used to support instances of a largely java-based telecoms network management solution, including work on parallelization of the utility's automated system and application deployment and online upgrade functions. Diagnosis and resolution of various defects in existing codebase, such as 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: Trac, GraphViz, DB2, Java 8, RxJava, Vert.x (distributed actors), Hazelcast (in-memory data grid), WebSockets, jsse crypto/security, JQuery, Backbone, BaconJS, AlpacaJS, Databases, JointJS, Jython, CPython, JUnit, Ansible, Maven, Continuum CI, QuickFIX, QuickFIX/J, Linux*

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

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

*Key technologies: Linux, Debian, RHEL, OpenBSD, PostgreSQL, MySQL, DB2, BIND, Postfix, Apache Cisco, Dell, HP devices remote admin (iLO, DRAC), OpenLDAP and MSAD, Corosync/Pacemaker HA clustering, libvirt/kvm, samba, lsyncd, rsync, bacula, Trac, QuickFIX, XML, C++, Python*

### **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.

*Key technologies: Django, Python, Celery, RabbitMQ, Apache, PostgreSQL, OpenLDAP, JQuery, kvm, Torque/Moab*

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

Worked on a range of software projects, such as a lisp web application servers deployed to VPS, Desktop-oriented multi-core programming and minor feature enhancements for GNU Emacs (volunteer).

**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, including linux cluster systems administration, researcher support, user training and R&D. 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 spreadsheet-like "power-user" interactions with live data feeds such as those encountered in stock trading.

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

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

*Key technologies: IBM WebSphere server-side java bridge to datastore on an IMS mainframe system.*

**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.

**1994: Work experience in the Eastern Health Board**

Working with medical computer databases with attention to data protection, privacy and security.

**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, all at higher level.  
Irish Junior Certificate 1993: 6 A, 3 B, all at higher level.  
Speech and Drama training: Honours (82%) at R.I.A.M. Grade 8  
Participated in both French and German language exchange programmes.

**REFEREE CONTACT DETAILS AVAILABLE UPON REQUEST**