**Seán P. Quinlan**
350 Washington St.
Melrose, MA 02176
781.353.6372
sean@quinlan.org

## SUMMARY

Over eight years of Perl, Linux & Apache development experience, primarily in designing web interfaces for data management & presentation. Six years of experience in Bioinformatics and related biotech projects. Five years LAMP development experience, including leading a large scale, multi-year project. Extensive experience in project, personnel and resource management. Collaborative team builder with strong leadership abilities.

### Languages

Perl (DBI, mod_perl), SQL, XHTML, CSS, JavaScript including AJAX, Shell-scripting

Familiar with C/C++, PHP, XUL, PDL, Ruby, XML, RSS

### Software

Apache, MySQL, GNU/Linux, FireFox, GPG, Perforce, CVS, Bugzilla, Kerberos, Quicken, Adobe Photoshop, Blast/ClustalW/Local/Rasmol etc.

## PROFESSIONAL EXPERIENCE

### Consulting and Perl Training

Experience consulting on projects ranging from large-scale Bioinformatics projects to small community web sites. Facilitate multiple day, hands-on workshops providing professional Perl development training. Classes range from an introduction to Perl to advanced Perl programming.

- Developed a user friendly front end for a bio-tech companies internal Bioinformatics tools, meeting a funding benchmark with a major international company licensing them. This project was brought from behind schedule and largely undocumented to being delivered early for final review.
- Designed a MySQL database to store 10's of millions of records for research lab, with links to internally stored publicly available biological data. Participated in general lab set up and designing the databases and tools needed to meet long-term needs. This work has been directly used in a publication and is a resource used behind additional publications.
- Developed custom training curriculum including workshop examples designed

to the interests and needs of the clients field(s).
- Have passed basic security clearance checks to provide advanced Perl training on site at secure government research facilities.

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**System Support 3**
Bioinformatics Program, BMERC, Boston University Jan. 2004 - present

Provide systems support and development for the Bioinformatics Program. Help the Center's graduate students and postdoctoral fellows develop new tools to meet their own research goals, including providing advice on good software development practices.

- Developed new methods for prediction and classification of WD repeat containing sequences.
- Assisted in developing specifications and bid review on 200+ CPU purchase.
- Improved and extended database schema's, including incorporation of extended WD repeat library and preliminary genome assemblies.
- Streamlined update procedures for new genomes.
- Provide genomic databases and tools for use on the BioWulf cluster.
- Developing a new student management system to meet the specific needs of the program.

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**Bioinformatics Specialist**
Massachusetts General Hospital, Department of Molecular Biology Sep. 2001 - Jan. 2004

Project leader for development of mission critical applications for the MGH's DNA Core, principally a Laboratory Information Management System (LIMS).

- Spearheaded adoption of software development best practices such as version control and setting up a dedicated QA and documentation team.
- Coordinated representative users and core managers to develop requirement specifications, and guided development to meet those requirements and QA to validate project releases.
- Integrated data management tools for four subgroups within the DNA Core: Synthesis, Sequencing, Bio-Automation and Microarray.
- Developed tools for incorporating a wide range of high-throughput equipment for such tasks as sequencing and oligonucleotide synthesis and support for product QC and process control.
- Provided a web front end for process management with secure (SSL) access

from any computer on a permitted network using any modern browser. System incorporates group and user access controls to resources and data.
- Created a client interface for placing orders for oligo synthesis and sequencing including tools for tracking the progress of an order.
- Provided order and account reports suitable for import into the existing billing proceedures, greatly improving the level of automation in tracking customer orders and generating invoices.

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**Director of Informatics**
Modular Genetics Inc. July 2001 - January 2003

Supervised specification, acquisition and setup of new biotech companies IT resources.

- Designed network layout and security measures to specifications required by contracts with pharmaceutical companies.
- Guided development of new tools required to meet MGI's core requirements.
- Assisted in developing new techniques to build on MGI's patents and IP to improve financial viability and open new potential markets.
- Worked with lab managers and CTO to develop procedures for managing project data, including log files from, and protocols for using, high-throughput equipment.
- Designed initial specifications for MGI's Information Management System
- Developed interim database for managing and storing MGI's crucial Bioinformatics analysis.

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**Programmer/Analyst 2**
BioMolecular Engineering Research Center, Boston University Dec. 1998 - Aug. 2001

Design, develop and maintain tools as required to accomplish Center goals. Help the Center's graduate students and postdoctoral fellows develop new tools to meet their own research goals, including providing advice on good software development practices.

- Led code review and refactoring effort in updating the BMERC's protein functional profile analysis (PIMA) tools, optimizing code and providing an API for incorporating PIMA tools directly in other applications.
- Doubled the library of functional profiles for use in domain dissection through development of a procedure to iteratively create maximally diagnostic profiles

from large seed sets, such as the E. coli k12 genome.
- Developed and maintained web site for the BMERC , including web interfaces to many of the centers key tools.
- Created a relational database and tools for parsing and storing data on sequenced genomes from genbank files.
- Carried out the analysis of all newly sequenced genomes using a large suite of software, both public (such as blast) and developed in house (such as PIMA) and stored results in custom database.

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**System Administrator**
IsleByte Inc. Jul. 1996 - May 1997

- Administrated a LAN with cross-mounted drives containing as many as six PC's using Windows 95 or Linux, and one running OS/2.
- Maintained login accounts and system backups.
- Helped beta test and debug the custom software developed by the company.
- Secondary maintainer of company's SQL database.
- Assisted with customer support as necessary.

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**Patents and publications**

- International Patent application WO 2004/064482 - "Alien Sequences"
- Technical reviewer for "Mastering Perl for Bioinformatics"
- "PACdb: PolyA Cleavage Site and 3'-UTR Database" - Bioinformatics (PACdb website)

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**Other experience**

- Active participant and organizer in Boston Perl Mongers since 1999, organized the monthly technical meetings from fall 2003 to spring 2005, host the website.
- Developed complex gaming tools for use by players of a browser-based multi-player online game with 40,000+ regular players. Work includes a FireFox extension which was announced with '*... has delivered the single best metagaming tool yet to the UD world*' by a prominent player.
- Initiated DBA:: tree on CPAN and am maintainer of DBA::Backup and DBA::Backup::mysql modules. Also contributed SQCAS and CompBio distributions.
- Regularly read Nature, Science, Scientific American, and Linux Journal

- IT Committee member and Youth leader, Melrose Unitarian Universalist Church

**References and letters of recommendation available upon request.**