BEN VANDERVALK

BIOINFORMATICS SOFTWARE DEVELOPER

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Career Interests	Algorithm/Software Development for Next Gen Sequence Analysis

Skills	- Software Development (C++, Java, Perl) - Algorithm Design and Analysis - Mathematics (Calculus, Linear Algebra, Combinatorics) - Unix/Linux - Revision Control Systems (Git) - Cluster Computing (SGE, SLURM) - Relational Databases (MySQL) - Semantic Web Standards/Technologies (RDF, OWL, SPARQL)
Bioinformatics Knowledge	- Standard Algorithms (e.g. Smith-Waterman, Progressive MSA) - Principles of Molecular Biology (e.g. Molecular Dogma) - Principles of Molecular Methods (e.g. Next Gen Sequencing Technologies, PCR) - Usage of Next Gen Seq Tools (e.g. BWA, FastQC)

Education

University of British Columbia — 2007 - 2010
M. Sc., Bioinformatics
Thesis: The SHARE System: a Semantic Web Based Approach for Evaluating Queries Across Distributed Bioinformatics Databases and Software

University of Waterloo — 1998 - 2003
B. Math., Computer Science

Experience

Michael Smith Genome Sciences Centre, BC Cancer Agency — 2013 - Present
Computational Biologist
Algorithm Development for ABySS Genome Assembler
ABySS 2.0
Konnector

University of British Columbia — 2011 - 2012
Software Developer for SADI Web Services Framework
SADI Spec
SADI for GMOD
SADI::Simple
SADI Personal Health Lens

Peninsula Graphite Inc. (Family Business) Electrode Supplier for Canadian Steel Mills Sales, Cash Flow, Shipping/Customs, Contract Negotiations	2005 - 2007

Electronic Arts Canada Intern Software Developer: SSX 3 Snowboarding Game Lightmap Processing Algorithm (Texture Compression)	2002 - 2003 (8 months)

Xandros Linux Intern Software Developer: "da Vinci" Remote Workstation Admin App Remote Task Scheduling Module (a la 'cron')	2002 (4 months)

Inscriber Technology Co. (now Harris) Intern Software Developer: FX Keyframe Video Editor Multi-select, Refactoring, Code Documentation	2001 (4 months)

Inscriber Technology Co. (now Harris) Intern Software Developer: 3D Effects Deformation Effects for Video Transitions (e.g. Wedding Videos)	2000 (4 months)

Publications	ABySS 2.0: Resource-efficient Assembly of Large Genomes using a Bloom Filter, S. D Jackman, B. P Vandervalk, H. Mohamadi, J. Chu, S. Yeo, S A. Hammond, G. Jahesh, H. Khan, L. Coombe, R. L Warren, others, Genome Research.	2017
	Konnector v2. 0: Pseudo-long Reads from Paired-end Sequencing Data, B. P Vandervalk, C. Yang, Z. Xue, K. Raghavan, J. Chu, H. Mohamadi, S. D Jackman, R. Chiu, R. L Warren, I. Birol, BMC Medical Genomics.	2015
	Konnector: Connecting Paired-end Reads using a Bloom Filter de Bruijn Graph, B. P Vandervalk, S. D Jackman, A. Raymond, H. Mohamadi, C. Yang, D. A Attali, J. Chu, R. L Warren, I. Birol, Bioinformatics and Biomedicine (BIBM) 2014.	2014
	Assembling the 20 Gb White Spruce (Picea glauca) Genome From Whole-Genome Shotgun Sequencing Data, I. Birol, A. Raymond, S. D. Jackman, S. Pleasance, R. Coope, G. A. Taylor, Macaire Man Saint Yuen, C. I. Keeling, D. Brand, B. P. Vandervalk, H. Kirk, P. Pandoh, R. A. Moore, Y. Zhao, A. J. Mungall, B. Jaquish, A. Yanchuk, C. Ritland, B. Boyle, J. Bousquet, K. Ritland, J. MacKay, J. Bohlmann, S. J. M. Jones, Bioinformatics.	2013

The SADI Personal Health Lens: A Web Browser-Based System for Identifying Personally Relevant Drug Interactions, B. Vandervalk, E. L. McCarthy, J. Cruz-Toledo, A. Klein, C. J. Baker, M. Dumontier, M. D. Wilkinson, JMIR Research Protocols.

2013

OWL-DL Domain-Models as Abstract Workflows, I. Wood, B. Vandervalk, L. McCarthy, M. D. Wilkinson, Leveraging Applications of Formal Methods, Verification and Validation: Applications and Case Studies.

2012

SADI for GMOD: Semantic Web Services for Model Organism Databases, B. Vandervalk, M. Dumontier, E. L. McCarthy, M. D. Wilkinson, Proceedings of the Canadian Semantic Web Symposium (CSWS) 2011.

2011

The Semantic Automated Discovery and Integration (SADI) Web Service Design-Pattern, API and Reference Implementation, M. D. Wilkinson, B. Vandervalk, E. L. McCarthy, Journal of Biomedical Semantics.

2011

SHARE & The Semantic Web - This Time it's Personal!, B. Vandervalk, E. L. McCarthy, M. D. Wilkinson, Proceedings of OWL Experiences and Directions (OWLED) 2010.

2010

SADI, SHARE, and the In Silico Scientific Method, M. D. Wilkinson, E. L. McCarthy, B. Vandervalk, D. Withers, E. Kawas, S. Samadian, BMC Bioinformatics.

2010

Moby and Moby 2: Creatures of the Deep (Web) B. Vandervalk, E. L. McCarthy, M. D. Wilkinson, Briefings in Bioinformatics.

2009

Optimization of Distributed SPARQL Queries Using Edmonds' Algorithm and Prim's Algorithm, B. Vandervalk, E. L. McCarthy, M. D. Wilkinson, Proceedings of the IEEE International Conference on Computational Science and Engineering (CSE) 2009.

2009

SHARE: A Semantic Web Query Engine for Bioinformatics, B. Vandervalk, E. L. McCarthy, M. D. Wilkinson, Proceedings of the Asian Semantic Web Conference (ASWC) 2009.

2009