

RESUME

DMITRI PRIIMAK

US Citizen

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OBJECTIVE

Software Engineer / Technical Lead

SKILLS

- Java
- Scala
- Python
- PyTest
- Jupyter Notebooks
- System Verilog
- Perl
- SQL, PL/SQL
- Oracle
- Sybase
- MySQL
- SQLite
- Shell Scripting
- XSLT
- XPath
- gRPC
- Spring DI
- C/C++
- Ruby
- PostgreSQL
- HTML
- OAuth2
- OpenID Connect
- Spring Boot etc.
- Linux (Ubuntu, Debian)
- Solaris 2.x
- FreeBSD
- Mac OS X
- VISA

EXPERIENCE

Renesas Electronics | Senior Staff Software Engineer / Validation 9/2020-9/2024

- Software lead in the Validation Team developing infrastructure tools, libraries and tests for SVI3, SVID and PMBus protocols post silicon validation (Python, VISA, C, Scala)
- Took over development and maintenance of high level library to abstract communication to various programmable bench instrument such as electronic loads, power supplies, oscilloscopes etc. (Python, VISA)
- Developed graphical applications for Renesas multi-phase controller configuration and rapid application development (Python, Matplotlib, Qt)
- Wrote numerical analysis library for processing and analyzing captured oscilloscope traces including decoding of various digital protocols from raw scope traces. (Python)
- Created distributed database system with Web UI for storing test results (Python, EdgeDB)
- Developed SVI3 test suite that includes directed and random (fuzzer) tests. (Python, PyTest)
- Create graphical application for triggering and accessing Xilinx ChipScope data. (Python, Xilinx ChipScope)
- Developed SVI3 test suite that includes directed and random (fuzzer) tests. (Python, PyTest)
- Wrote translation library to and from highlevel PMBus API to low level I2C transactions including low level dispatch code for Raspberry PI and Digilent Digital Discovery platforms. (C, Scala, Python)
- Wrote basic template/infra projects that are used by all validation engineers and provide outgoing support. (Python, PyTest, Jupyter Notebooks)
- Created (and provide outgoing support for) common development process centered around Gerrit GIT server, code style and best practices enforcement. (Git, Python, Gerrit)

Hitachi Vantara | Software Architect 6/2019-8/2020

- As a primary architect for team developing Hitachi Storage Advisor (HSA) I participate and advise on all related projects. (Java, Spring Boot, JDBI, Lombok, Elasticsearch)
- Redesigned and reimplemented authorization and authentication service used by HSA significantly improving response time, reliability while reducing code size. (Java, Spring Boot, JDBI, Lombok, H2)
- Designed and oversaw integration of HSA with Keycloak OpenID provider (OpenID Connect, Java)

Forward Networks | Software Engineer 8/2018-1/2019

- As a member of scaling team working to reorganize backend services of our flagship network management software. (Java, gRPC, Spring)

Roche/Genia | Principal Software Engineer 8/2016-8/2018

- Designed and implemented (leading team of several people) cloud pipeline for processing next generation sequencing (NGS) data. Built in a modular fashion it consist of generic runtime that resembles Kubernetes and pipeline specific layer that explicitly uses finite state machine to orchestrate resource and jobs creation and allocation. (Java, Docker, Google/GCP)

- Set up from scratch software development processes centered around Gerrit code review tool. Formalized and enforced software development practices that involved formal and informal verification processes. Provided extensive training to all developers covered by this process. (Gerrit, Jeninks, Maven etc.)
- Participated in designing of data formats used in the exchange of data within next NGS stations and between stations and external management software.
- Wrote various libraries for reading and writing Roche specific proprietary data formats used in NGS instruments. (Java, Scala, C)
- Developed signal analysis tools for characterization of on the chip bio-chemical complex used in NGS instruments. (Java, Scala, C)
- In process of developing base-calling (converting raw data from NGS instruments into DNA bases) software suite of tools. (Scala)

Intapp | Senior Systems Software Engineer

1/2016-8/2016

- Implemented new features and APIs in the Intapp Integrate (Intapp's integration appliance) (Java)
- Performed numerous presentations presenting different modern tools and software development process

Lifecode Health | Senior Systems Software Developer

7/2014-1/2016

- Developed and implemented library and data structures for representing patient information, which encompasses patients clinical history, genetic makeup of the cancer and related mutations. This library lies at the core of Lifecode processing pipeline. (Java)
- Co-developed first order logic language used for querying patient medical information and matching it against drug and clinical trials internal databases. (Java)
- Participated in development of back-end software for processing next generation DNA sequencing data. This includes writing modules that ingest externally available data sets of drugs and clinical trials. (Java, Python)
- Developed and maintained build and release processes including writing plugins. (Maven, Jenkins, Nexus, Docker)

HighWire Press of Stanford University | Senior Systems Software Developer

7/2008-1/2013

- Developed indexing application responsible for maintaining online up to date index of xml metadata extracted from xml atom files. Result of the indexing was served through RESTful API exhibiting extremely low latency while serving thousands of requests per second. (Java, C, GLib, SQLite)
- Was responsible for development and maintenance of several major components within in-house developed XSLT based web framework. (Java, XSLT2, Saxon, Tomcat)
- Developed cache channel based infrastructure for maintaining consistency of caches of internal web services. (Java)
- Developed custom web framework that allows greater orchestration of requests than standard RESTful API systems. This framework was used by many of the internal HighWire services. (Java, MySQL)
- Developed and maintained numerous libraries used throughout HighWire. (Java, Sybase, MySQL)

Stanford University Networking | Senior Software Developer

4/2000-7/2008

- Primary developer and maintainer of NetDB application suite. This set of software libraries and servers is used to store and manage in distributed fashion model of enterprise computer network. Changes to this model automatically propagate to the relevant services within the network, which includes DNS and DHCP services, firewall configuration etc. Optionally system allows asset tracking of network-attached devices and their respective "owners". NetDB is widely used within Stanford and suitable for very large networks. This software was made open source and presented at the OSCON conference in Portland Oregon. Parts of NetDB include database back end (Sybase/Oracle), several middle-ware services, such as web server, command line clients (whois/netdb) and RMI clients (Java). While working on this project I successfully participated and oversaw several non-disruptive NetDB deployments. The software is available at <http://web.stanford.edu/group/networking/netdb/>
- Developed and maintained internal bug reporting system (PostgreSQL, Perl).
- Participated in development of kerberos authentication modules for Apache web server. (C, Perl)
- Developed several modules for Puppet configuration engine for Unix systems. (Ruby)
- Participated in the development of NetLDAPapi Perl ldap library. (C, Perl)

Cold Spring Harbor Laboratory, NY | Unix system administrator

5/1999-3/2000

- Developed and maintained two Unix NIS/NFS domains. Was responsible for installing and maintenance of two SUN E450 servers, Compaq Alpha server ES40 running Thru64 Unix, set of Linux/Intel and Sun/Sparc workstations, Linux and Solaris web servers. (Solaris 2.6, Digital Unix, Linux)

- Assisted scientists in development of multithreaded DNA alignment and analysis software. Wrote Perl CGI modules. Developed web based java application acting as a database client to query genetic databases. (C/C++, Perl, CHI, Shell Scripting)

Digisoft Inc. NY | Java software developer

12/1998-5/1999

- Participated in the development of the call center software. That involved development of Java based server-side applications on MS Windows platforms linked to MS SQL Server/MS Access and Java/Swing GUI development of the client software. (Java 1.1/2, SQL Server, MS Access, TCP/IP, Windows 95/NT)

Queens College, CUNY, NY. | Unix C programmer

6/1998-12/1998

- Developed software for processing of bacterial images, which included automated identification and counting bacteria and identification their "skeletal" structure. Software was developed for the Unix environment, X windows GUI application directly based on Xlib (C/C++, X11, Xlib, Solaris2.6, Linux)

Institute of Physics in Krasnoyarsk, Russia | Scientific programmer

6/1996-6/1997

- Principal developer for C and Matlab based software tools that performed numerical simulations of quantum-mechanical system operating in the classical chaotic domain. (C/C++, Matlab, LaTeX, OS/2 Warp, Windows 95/NT)

EDUCATION

- 2010 - 2020, Loughborough University, UK, Physics Ph.D
- 6/1997 - 6/1998, City University of New York, Physics Ph.D. student.
- 6/1991-6/1996, Krasnoyarsk State University, Russia, BS and MS in physics.

PUBLICATIONS

- Alekseev K.N., Primak D.S, ERRATUM: Squeezed states and quantum chaos [JETP 86, 6170 (January 1998)], Journal of Experimental and Theoretical Physics, 89(4):810-810,1999
- D. Priimak, Finite difference numerical method for the superlattice Boltzmann transport equation and case comparison of CPU(C) and GPU(CUDA) implementations, Journal of Computational Physics, Volume 278, 1/Dec/2014, pp. 182-192.
- PhD Thesis "Computational Physics of Semiconductor Superlattices" 2020-07-30 <https://doi.org/10.26174/thesis.lboro.12104085.v1>
- "Hitchhikers guide to Git" <https://tinyurl.com/2-hitchhikers-guide-to-git-pdf>

OPEN SOURCE PROJECTS

- SPlot - Scala Plotting library <https://splot-web.github.io>
- XYMesh - Adaptive mesh refinement library for numerical simulations <https://github.com/priimak/xymesh>