Valentin Kuznetsov

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PROFILE

Professional experience in software application and web development, systems administration, databases, shell scripting, programming and troubleshooting.

Strive to help people and resolve their problems. Strong belief in end-to-end product deployment, customer satisfaction and agile development methodologies.

Always looking for new challenges and committed to continuous education.

PROFESSIONAL EXPERIENCE

2014 - present
Advisory Board Member University of Washington, Data Science Program

2003 - present
Data scientist and software engineer, Cornell University, NY

Work for **CMS** :: **LHC** :: **CERN**, Geneva, Switzerland.
Co-leader of CMS monitoring, web development groups.
Perform various projects in ***Data Science and Analytics***: CMS computing analytics, dataset popularity, MLaaS for HEP; ***Monitoring***: oversee CMS monitoring infrastructure; ***Orchestration***: migration of cmsweb cluster to Kubernetes; ***Design and Development*** of CMS data management systems, such as archive for distributed worklow management, Data Discovery and Data Aggregation systems, File Transfer toolkit, Workflow management and reconstruction frameworks.

Work for **CLEO-c** collaboration at Cornell, NY, USA. Build EventStore data management system, low-level I/O framework for data access, meta-data web-service and port Cleo-c software among different UNIX platform.

1999 - 2003
Post. doctoral researcher and software engineer at UC Riverside.

Work at Fermi National Laboratory (**FNAL**) for **D-Zero** experiment. Co-lead software development group for **D0 global tracking project**. Built track reconstruction software framework and develop tracking algorithms based on Kalman filter. Perform UNIX administration, support and management of D-Zero software.

1998 - 1999
Research Associate and software engineer at CERN, Geneva, Switzerland

Work for **NOMAD-STAR** collaboration. Design and implementation of NOMAD-STAR software, including track reconstruction, digitization, visualization and data management. Leader of software development group.

1993 - 1998
Junior Research Associate Joint Institute for Nuclear Research, Russia.
Research in a field of neutrino oscillations, neutrino propagation through Various studies in theoretical physics, data analysis and matrix calculations. matter and electromagnetic properties of neutrinos (part of Ph.D thesis). Unix administration, Monte Carlo simulations of various physics processes.

TECHNICAL SKILLS

Buzzwords:
» *Programming experience:* fluent in Python, intermediate experience in Go, C++, basic/past knowledge in Erlang, R, C, JavaScript; UNIX tools.
» *Big Data/Analytics:* Hadoop, HDFS, Map-Reduce, Spark, Machine Learning;
» *Orchestration:* Docker, Kubernetes;
» *Monitoring:* kibana, grafana, prometheus;
» *Web technologies:* HTML, CSS, REST, AJAX, JSON, XML;

- » *Databases:* SQLite, MySQL, ORACLE, MongoDB, CouchDB;
- » *Security:* SSH, Nmap, firewalls (iptables);
- » *Version Control Systems:* GIT, SVN, CVS;
- » *Package management:* make, RPM, APT, ports;
- » *OS:* Linux, FreeBSD, Mac OS X;
- » *Process and Testing:* Agile, Prototyping, Mock-up, Unit tests.

Tasks and procedures:
- » system and maintenance planning, installation and documentation;
- » software design and implementation;
- » kernel installation and tuning;
- » building, installing and remotely deploying software;
- » designing, configuring, and supporting web applications;
- » building web sites and their integration with databases;
- » planing and implementing system security;
- » shell programming;
- » backup planning and management;
- » mentoring students, project planning, group coordination;

EDUCATION AND TRAINING

Certificates
- » **CERN-HSF Mentor Google Summer of Code 2017**
- » **Data Science**
- » **Introduction to Apache Spark**
- » **Distributed Machine Learning with Apache Spark**

2016, edX/Berkley online course
- » Data Science and Engineering with Spark

2015, Chicago, IL
- » **Advanced Python Mastery**

2013, Certificate Data Science Program, Univ. of Washington, WA, USA
Introduction to Data Science, Methods for Data Analysis, Deriving Knowledge from Data at Scale

2003-present, Computer Science department, Cornell Univ., Ithaca, NY, USA
Data-driven Web Applications, Computer Networks, SQL training, The Architecture of Large-Scale Information Systems

1999-2003, Training at Fermi National Laboratory, Batavia, IL, USA
Object-Oriented Design and Programming in C++, Fast Track to Objects, Object-Oriented Analysis and Design using UML

1999, Ph.D. in Physics (PDF), Joint Institute For Nuclear Research, Russia

ADMINISTRATION AND MANAGEMENT

Experience in leadership of small and medium size groups.
Skillful organizer with experience in long-term research projects. Experience of work as a member of large, small and international teams.
Familiar with handling of research grants and purchasing of equipment.
Day-by-day advice and leadership of students.

PERSONAL

Languages: Russian (native), English, French (basic).
Self-motivating with good communication and interpersonal skills.
Fast learner in programming languages.
A full list publications is available upon request.
Employment is fully authorized.