Pavel Dolin

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EDUCATION

Bachelor of Science in Physics, GPA: 3.77 — University of California Santa Barbara
Distinction in the Major and Departmental Honors in Physics. — *September 2016 - June 2019*
Completed Honors Thesis. Dean's List 2019

SKILLS AND RELEVANT CLASSES

Computer Languages	Python, C++, PHP, Matlab
Software Proficiency	TensorFlow, PyTorch, SQL, Shell scripting, VASP, Microsoft Office
Relevant Classes	Quantum Computing and Information, Scientific Computing, Machine Learning, Artificial Intelligence, Nonlinear Dynamics, Condensed Matter Physics
Code Sample	***github.com/izuminka/core_ML_AI_concepts_algorithms***

PROFESSIONAL EXPERIENCE

Undergraduate Researcher and Software Engineer — Santa Barbara, CA
UCSB Materials Department, Van der Ven Research Group — *June 2017 - June 2019*
PI: Anton Van der Ven - avdv@ucsb.edu

- My technical tasks included: ML with TensorFlow and PyTorch, building a pipeline for processing data with Python, C++ and Bash, high-performance computing, prototyping and re-purposing algorithms, generation and management of large datasets (SQL), datamining and data visualization.
- (April 2018-June 2019). First principles investigation of thermodynamics of group 4, 5, 6 binary refractory alloys, total of 36 systems. For each system: performed quantum mechanical calculations (HPC), created and optimized a model via machine learning, ran Monte Carlo on the model to generate phase diagrams. Developed a pipeline using Python and Bash to speed up the research. Second author publication pending.
- (June 2017-April 2018). Analysis and coding of recent methods of encoding chemical and structural information of the materials for prediction of properties via machine learning. Worked with Python, C++, TensorFlow, PyTorch, SQL. Project demo: ***github.com/izuminka/ML_Materials_Descriptors_demo***

Research Intern, Fermilab CCI Program — Batavia, IL
Fermi National Accelerator Laboratory, Particle Physics Division — *June 2016 - Aug 2016*
Mentor: Dr. Vadim Rusu - vrusu@fnal.gov

- Prototyped/assembled/tested the performance of a buck converter that could operate in large external magnetic fields. Based on the experiments proposed the next design of the prototype.
  Presentation Poster: ***eddata.fnal.gov/lasso/summerstudents/papers/2016/Pavel-Dolin.pdf***

OTHER EXPERIENCE

Co-Founder and President of SBCC Energy Collective — Santa Barbara, CA
Renewable Energy Club at Santa Barbara City College — *Sept 2014 - Aug 2016*
Mentor: Dr. Bill Dinklage - wsdinklage@pipeline.sbcc.edu

- Developed an interactive charging station in order to inform public about basic principles of photovoltaics.
  Interview: ***thechannels.org/news/2015/09/21/sbcc-club-builds-solar-energy-phone-charger-for-students***

OTHER SKILLS

Fluent in Russian. Half marathon runner, competed in Pier to Peak "The World's Toughest Half Marathon"