About me

Zaven Badalyan
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born 28.01.1991
in Armenia

Education

M. Sc. Mathematics. , B. Sc. Mathematics, B. Sc. Physics

Curriculum Vitae

Work Experience

05.2019-ongoing	Firm: IT-company psaichology.org from Berlin Role: Main developer of robust Neural Networks Project details: -Transfer of psychological aspects on AI algorithms -Data analysis/preparation/optimization -Data denoising/ clustering/ dimensionality reduction with statistical tools, self written code+python packages Pandas, using R -Design and creation of appropriated Neural Nets, Hyper-parameter tuning -Usage of modern automated Tools: AutoML -Usage of cloud computing platforms: AWS, Azure -Write, Run and Debug self written custom Neural Network codes, using different ML Libraries: TensorFlow, PyTorch -Successful validation of self written Neural Nets, new result in the theoretical psychology *Qualifications:* Data Science, Big Data, Predictive analytics, Machine Learning, Neural Nets, Pandas, CUDA, Tensorflow, PyTorch, Numpy, Python, C++, Java (gen.), Python, SQL, AWS, Azure, Spark
12.2019-1.2020	Building own personal homepage: badalyan.it. For this I used top modern webdeveloping tools like VueJS, NodeJS, the databasis MongoDB and of coarse HTML, CSS and Javascript. The website is running also on my own virtual server, which requires serverside programming like using apache2 and having heavy Server Linux knowledge.
10.2018-05.2019	Working as a freelancer in areas Mathematics and Machine Learning, giving workshops for firms and private lessons on: Maths, Statistics und Machine Learning, Neural Nets, Python, Pandas, Tensorflow, PyTorch, Numpy, Java (gen.) etc..

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2010-ongoing	9 years Coding Experience: -Developing websites with HTML, CSS, JavaScript, NodeJS, ReactJS -Writing Simulation software (FEM, Matlab, Python, C++) in University Projects (3, duration of each 6 Months) -50% of Bachelors and Masters thesis written C++, Python codes: both all in all 2 years -Accomplishing Machine Learning/Neural Networks/BigData modules in the University with 50% programming and 50% theory (3 years of experience), using Python, C++, Tensorflow, Pytorch, Bash, Linux, Jupyter, Git etc.

Study

10.2018-07.2019	**M. Sc. Mathematics** at Humboldt-Universität zu Berlin **Technical focus**: Optimization, Partial Differential Equations, Finite Element Methods, Machine Learning and Neural Networks Master's thesis: *"Optimal control of singularly perturbed parabolic Partial Differential Equations interpreted as regularized continuous analogues of Deep Neural Networks"* M.s.c. Mathematics grade: 1,0 (best grade)
10.2014-06.2018	**B. Sc. Mathematics** at Humboldt-Universität zu Berlin Bachelor's thesis: *„Eine primale unstetige Petrov-Galerkin Finite-Elemente-Methode niedriger Ordnung für Hyperelastizitaet"*
10.2013 –03.2020	**B. Sc. Physics** at Humboldt-Universität zu Berlin, Status: Almost done

Seminars, Workshops

9-12.02.2019	IT-Tage in Frankfurt: Workshops on Machine Learning, Big Data, IT-Security
3-7.02.2018	Conference in Braunschweig: "Modelling, analysis, and approximation theory toward applications in tomography and inverse problems"
23-24.01.2018	Workshop in Berlin : "PDE-constrained optimization with FEniCS"
22-25.05.2017	Seminar in Pavia, Italy: "Frontiers in Partial Differential Equations Analysis and Solvers"
3-6.01.2017	Winterschool in Berlin : On Implementation of discontinuous Petrov-Galerkin FEM"

School

June 2013	German Abitur ∅ 1,3
2009-2013	Manfred-von-Ardenne-Gymnasium in Berlin Focus: Mathematics, Physics
2008-2009	Gutenberg Gesamtschule Berlin, High-School-Niveau
1998-2008	Middle School Nr. 74 in Yerevan, Armenia

Skills

Specializations	Machine Learning \ Deep Learning Neural Networks \ NLP \ CNN \ RNN Computer vision \ Imaging \Image processing Statistics \ Stochastics Linear and Nonlinear Optimization Partial and ordinary differential equations Finite element method \ Simulation engineering Classical and Quantum Physics

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Programming languages

Python

- Tensorflow, Cuda, Cudnn
- Keras
- PyTorch
- NumPy
- SciPy
- dolfin-adjoint
- Pandas

Java
C++

Matlab

- Statistics and Machine Learning Toolbox
- Optimization Toolbox
- Curve Fitting Toolbox
- Partial Differential Equation Toolbox

Latex

- Beamer
- PGF/TikZ

MS Office

- Word
- Excel
- Powerpoint

Docker, Kubernetes, Git
Spark, Hadoop
HTML & CSS, VueJS, NodeJS
AWS, Azure
Bash, Vim, Nano
Linux, Mac OS, Windows

Speaking Languages	German: native speaker English: level C1 Russian: level C2 Armenian: mother tongue Latin: basic knowledge

Hobbies

Reading books
History and politics
Chess
Cycling
Jogging
Swimming
Playing guitar
Dancing: Bachata, Kizomba, Salsa

Awards

2013: Maths award in the High-School as the best
2012: DPG Physics award as the best in the High-School
2009: Best student of the vintage in Gutenberg-Schule after staying only one year in Germany
2007: Award in geography olympics in Yerevan
1998-2007: Best student of the vintage of the School Nr. 74 in Yerevan during 10 years

Berlin, January 28, 2020

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