VITALII ZHUKOV, PHD

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SUMMARY

Experienced professional with 12+ years of expertise in Data Science, Software Engineering, and Project Management across various sectors. Specialized in research, telecommunications, banking, and security, with a focus on large language models, human performance, and monitoring systems. Demonstrated track record of delivering impactful results and driving innovation.

EXPERIENCE

2019 – Present **AI/ML Researcher**
CS Department, Computational Physiology Laboratory

- Stack: Python (PyTorch, Keras, TensorFlow), MySQL, PostgreSQL, GPT-3.5, Llama2, ALBERT, R (tidyverse, dplyr, car, lme4, caret, MASS, shiny, ggplot2, plotly), Open MPI, CUDA.
- Led 3 research projects, examining laws underlying human behavior and achievement in highly competitive environments resulting in two journal manuscripts and two conference presentations.
- Designed novel analytical method (data quality control for skewed distributions). Collected and annotated data in different domains (inc. networks with 35m nodes, 120m+ edges). Applied inferential tools and fine-tuned large language models for hypothesis testing, classification, and forecasting.
- Taught graduate-level classes: Statistical Methods in Research, Ubiquitous Computing, Data Structures and Algorithms to more than 2000 students in Computer Science department.
- Developed a web-based system to collect, analyze, and visualize user surveys and performance data, optimizing course complexity and flow (4 semesters data, ~500 weekly surveys).

2017 – 2018 **Project Manager (R&D)**
Luxoft / Deutsche Bank

- Managed 3 teams comprising 53 engineers, ensuring delivery of projects in the security domain. Spearheaded recruitment efforts, nurtured talent, and expanded team size from 17 to 53 members.
- Participated in the successful execution of two Proof of Concept initiatives for two new products (user studies, concept/usability testing). Collaborated with various business and product teams to prioritize hypotheses and research questions in strategic planning.

2010 – 2017 **Head of Automation (R&D)**
General Satellite

- Created and led the Automation Department (4 engineers): monitoring, CI/CD, and tools development.
- Designed and implemented a customer behavior analytics system, improving customer segmentation models (12.5 million users). Strengthened behavior analysis capabilities (customer research), enhancing strategic planning resulting in 8% revenue increase.
- Developed and deployed enterprise-scale monitoring system (2000+ hosts, 3m+ metrics).

SKILLS

- Python; R; SQL; C++; Bash.
- GCP; CloudConsole; LangChain; VertexAI; DialogflowCX; DataFlow; DataFusion; LookerML; BigQuery.
- ML; DL; LLM System design; ELT; Prompt Design & Engineering; RAG.
- Git; Atlassian Jira/Confluence; Redmine; OSF; Zabbix; ITIL; SDLC; Agile; Scrum.

CERTIFICATIONS & DIPLOMAS

2014	**Zabbix Certified Specialist**
	Zabbix, Credential ID CS-141077
2014 – 2015	**Database Development and Administration**
	Peter the Great St. Petersburg Polytechnic University, GPA: 4.0
2015	**Python Software Development**
	ITMO University, GPA 4.0
2016	**ITIL Foundation v3**
	Eurika, Learning center
2016	**Automating Administration with Windows PowerShell**
	Eurika, Learning center, 10961B
2018	**Data Science Specialization**
	Johns Hopkins University, Coursera
2020	**Information Privacy and Security (IPS)**
	CITI Program, Credential ID 39951557
2020	**Responsible Conduct of Research for Engineers**
	CITI Program, Credential ID 39951088
2020	**Conflict of Interest in Research**
	CITI Program, Credential ID 39951556
2024	**Artificial Intelligence, Cybersecurity, Data Fundamentals**
	IBM SkillsBuild
2023 – 2024	**GCP, VertexAI, Generative AI, Conversational AI, Looker, LookerML**
	Google CloudSkillBoost

EDUCATION

Doctor of Philosophy (Ph.D.)
Computer Science, University of Houston, GPA 3.9

Master of Science (M.S.)
Mechanical Engineering, Peter the Great St. Petersburg Polytechnic University

PUBLICATIONS

[IN PREPARATION] **Zhukov**, Tsiamyrtzis, Pavlidis (2024) Modeling of Competitive Human Performance.
[UNDER REVIEW] **Zhukov**, Pavlidis, Dukes (2023) Quantitative History of Affectivism.
[CONFERENCE PAPER] **Zhukov** et al. (2022) Convergence in Affective Sciences, ISRE 2022, LA CA.
[CONFERENCE PAPER] Hasan, Tsiamyrtzis, **Zhukov**, Manser, Wunderlich, Pavlidis (2023) ACM CHI 2024.
[PUBLISHED] Zhukova, Li, **Zhukov,** Grigorenko (2023) Children, 10(8), p.1367.
[BLOG] Personal technical blog, https://vvzhukov.github.io