

# VIVEK JOSHY

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## PROFESSIONAL EXPERIENCE

**Vairified Corp** January 2024 – Present  
Data Scientist Naples, Florida

- Built VAIR rating system for competitive player assessment.
- Created REST APIs and dashboards for real-time analysis.

**Pickleball Players Network** October 2023 – December 2024  
Data Scientist Los Angeles, California

- Created matchmaking algorithms and skill assessment models.
- Built prototype system using Python and PostgreSQL.

**Open Source Development** 2016 – Present

- Built IRC servers and web apps on shared hosting platforms.
- Created CI/CD pipelines and infrastructure solutions.

## TECHNICAL PROJECTS

**BELKA Molecular Interaction Challenge** 2024

- Won Kaggle silver medal in BELKA protein-molecule interaction challenge.
- Implemented domain adversarial training with gradient reversal.
- Designed a custom molecular data processing architecture.

**SAT/SMT Solver** 2024

- Built CDCL-based reinforcement learning system for SAT/SMT problems.
- Custom rewards created for efficient solution space exploration.

**Prompt Ensemble Framework** 2024

- Built an entropy-based framework for token evidence aggregation.
- Created logarithmic pooling for confidence scoring.

## PUBLICATIONS

**OpenSkill: Multi-team Rating System** 2024  
Journal of Open Source Software (DOI: [10.21105/joss.05901](https://doi.org/10.21105/joss.05901))

**The Hitchhiker's Guide to Python** 2017  
Contributed to Common Gotchas chapter ([docs.python-guide.org](https://docs.python-guide.org))

## SKILLS

**Technologies:** PyTorch, TensorFlow, Pandas/Polars, BioPython, Ray/RLLIB, FastAPI

**DevOps & Data:** Git, Docker, AWS, GCP, PostgreSQL, MongoDB, TypeDB, RDF/SPARQL

**Core:** Deep Learning, Reinforcement Learning, Bioinformatics, Mathematical Logic

## EDUCATION

**Mahatma Gandhi University** 2024  
*Bachelor of Science in Bioinformatics* Aluva, India

References available on request