# Mishari Mohammed AlMishari Alhussain

Applied ML, optimization, and algorithms

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## Education

**University of Southern California, Viterbi School of Engineering** Starting Spring 2027
*B.S. Computer Science* *Los Angeles, CA*

**King Faisal School** 2026
*IB Diploma, HL: Computer Science, Mathematics, Physics* *Riyadh, Saudi Arabia*

## Experience

**Saudi Olympiad in Informatics (SOI), Founder & Director** 2024 to Present
*National competitive programming olympiad* *Riyadh, Saudi Arabia*

- Founded Saudi Arabia's national informatics olympiad and scaled it to hundreds of participants in partnership with Tuwaiq Academy.
- Direct a team of twelve across problem design and national selection rounds.

**Mawhiba National Olympiad Training (IOI / IOAI), National Trainee & Competitor** 2023 to 2025
*Competitive AI and algorithms* *Riyadh, Saudi Arabia*

- Placed top 10 nationally on the IOAI artificial intelligence track, training and fine tuning machine learning models on real NLP and computer vision datasets.
- Placed top 16 nationally on the IOI informatics track and competed in the Asia Pacific Informatics Olympiad (APIO).

**Innovation Valley, Cybersecurity Intern** 2025
*Healthcare network security* *Riyadh, Saudi Arabia*

- Configured network systems and firewalls for hospital infrastructure.

## Projects

**Chess AI, Engine Design**
*Search and evaluation*

- Built a chess engine rated around 1300 Elo using minimax search with a handcrafted evaluation function.

**XOR Linked List Graph Traversal, CS Extended Essay** 2026
*Memory efficient data structures*

- Benchmarked an XOR linked list traversal against adjacency list depth first search and measured a 5 to 14x speedup.

**Autonomous Blended Wing Body UAV, Solo Design** Ongoing
*Airframe, avionics, perception*

- Design and assemble a blended wing body airframe with a full parametric Fusion 360 model and an onboard perception stack.

## Honors

- **ATHKA**, National Olympiad for Programming and AI (SDAIA): top 30 of 260,000 participants.
- **ICPC** Arab Collegiate Programming Contest, Teens Division: First place, Gulf region.
- Arab Collegiate Programming Contest (ACPC): Honorable Mention.
- International Informatics Olympiad in Teams (IIOT): national team member.

## Skills

**Languages:** Python, C++
**ML / Data:** PyTorch, scikit-learn, pandas, NumPy, Matplotlib; neural networks from scratch in NumPy; gradient boosting; feature engineering
**Algorithms:** data structures, dynamic programming, graph algorithms, combinatorial optimization
**Tools:** Git, LaTeX, Fusion 360 | Also: Lean 4, Z3/SMT (formal verification)