

# Mohammed Abu Mustafa

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## EDUCATION

### Rochester Institute of Technology

*Master of Science in Professional Studies: Data Analytics*

*Expected May 2027*

### Rochester Institute of Technology

*Bachelor of Science in Computing and Information Technologies*

*May 2025*

## EXPERIENCE

### AI Solutions Architect Intern

June 2025 – Present

*Cumulocity IoT (SoftwareAG)*

- Built an AI service catalog of 10+ use cases, now used in customer presentations and upcoming GITEX booth demos to showcase integrations and drive adoption
- Forged strategic partnerships with external companies, expanding the IoT ecosystem and demonstrating real-world interoperability
- Integrated live camera feeds via REST API, enabling event playback and real-time monitoring
- Delivered AI workshops for 80+ participants and created executive-level decks supporting a €1–2M pipeline

### Lead Optimization Researcher

May 2024 – Aug 2024

*Rochester Institute of Technology | [GitHub](#)*

- Developed genetic algorithms reducing course-scheduling time from days to 2–3 hours
- Increased model accuracy to 90% and eliminated conflicts through refined constraints and testing
- Published award-winning paper recognized as Best Paper at ISDIA-2025
- Collaborated with faculty to translate academic requirements into data-driven scheduling solutions
- Publication in progress for Springer LNNS proceedings (expected Nov 2025)

### Computer Vision Intern

May 2023 – Aug 2023

*Analytica*

- Built a live face identifier/tracker achieving 80% accuracy for JVP exam research
- Developed a web app for vein and rib detection using template matching with 80% accuracy
- Led software development supporting medical visualization research

## PROJECTS

### Sign2Sign (Capstone Project) | *Computer Vision, NLP, 3D Avatar* | [GitHub](#)

May 2025

- Built a 3D Avatar-based sign language translator for English–German using computer vision and NLP
- Curated and labeled thousands of sign images under varied conditions to improve model robustness
- Trained a sign-to-text model and implemented a text-to-sign algorithm using Euler angle wrist calculations

### Precision Agriculture AI | *ML, Computer Vision, Web Dev* | [GitHub](#) | [Published Paper](#)

Dec 2023

- Partnered with Dubai Future Labs to deploy AI crop analysis using drone imagery for resource-efficient farming
- Preprocessed drone-captured data and trained ML models for crop health classification
- Integrated results into a responsive web interface; earned Best Presentation at ICRAE2023
- Published research paper in Springer Nature's DCAI 2024 conference proceedings

### Parkinson's Disease Prediction | *ML, Signal Processing, Data Analysis* | [GitHub](#)

Dec 2023

- Processed 980k+ protein/peptide records to build datasets for early-stage progression modeling
- Applied feature engineering and ML techniques, achieving 65–70% classification accuracy
- Leveraged advanced signal processing to extract clinical patterns and improve model robustness

## TECHNICAL SKILLS

**Languages:** Python, SQL, JavaScript, TypeScript, HTML/CSS

**Technologies:** Pandas, NumPy, Scikit-learn, TensorFlow/PyTorch, Matplotlib, MySQL, Git, Linux/Unix

**Frameworks & Tools:** React, Flask, Docker