Michael Nabil

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Objective

Enthusiastic Computer and Information Science student entering my senior year at Ain Shams University, passionate about systems programming, machine learning, and software engineering. Eager to leverage problem-solving skills and hands-on project experience to contribute to innovative, technology-driven solutions.

Education

- **Ain Shams University – Faculty of Computer and Information Science** *Oct 2022 – July 2026*
  B.Sc. in Computer and Information Science Cairo, Egypt
  – **CGPA**: 3.0/4.0
  – **Relevant Courses**: Operating Systems, Data Structures, Algorithms, Machine Learning, Compiler Theory, Computer Networks, Artificial Intelligence

Extra-Curricular Activities

- **MSP Tech Club ASU** *2023*
  Trainee Cairo, Egypt
  – Customized and enhanced games by modifying code, assets, and mechanics using reverse engineering and memory editing.
  – Collaborated with developers to implement improvements, new features, and gameplay fixes.
- **ApplAi Student Activity** *2023*
  Trainee Cairo, Egypt
  – Developed a water potability prediction model with data cleaning, outlier removal, and oversampling.
  – Optimized six ML models, with Random Forest achieving best performance.

Projects

- **FOS – Custom Operating System** *2025*
  using C
  – Implemented explicit free list memory allocator with First Fit and Best Fit allocation.
  – Developed kernel heap dynamic allocator and priority round-robin scheduler with starvation handling.
  – Achieved full marks and extra credit for complexity and performance.
- **Parkinson's Disease Prediction** *2025*
  Python, Pandas, Scikit-learn, Matplotlib
  – Developed ML pipeline to classify disease likelihood and predict HPDRS scores from medical data.
  – Conducted feature engineering, feature selection, and compared multiple models.
- **News Classification System** *2025*
  Python, NLP, Scikit-learn
  – Built text classification pipeline with TF-IDF and Naive Bayes/Logistic Regression models.
  – Achieved 81–82% accuracy with robust evaluation metrics.
- **Image Segmentation using Minimum Spanning Tree** *2025*
  C#

– Designed and implemented the graph representation layer, mapping pixels to vertices with 8-neighbor connectivity and intensity-based edge weights.

– Contributed to MST-based region merging logic, applying segmentation across RGB channels.

– Developed BFS-based region labeling and visualization module with randomized color overlays and segment statistics output.

Skills

– **Programming Languages**: C++, C, C#, Java, Python, SQL, Scala, TypeScript, JavaScript, HTML/CSS

– **Frameworks & Libraries**: Scikit-learn, Pandas, Matplotlib, Streamlit, SFML

– **Tools & Environments**: Git, Jupyter Notebook, Oracle SQL Developer, MongoDB

– **Technical**: Memory editing, real-time debugging, dynamic code analysis, data structures, algorithms, OOP, machine learning