Rodwan Bagdadi

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Education

German Jordanian University **Expected Graduation: June 2025**
Bachelor of Mechatronics Engineering *Madaba, Jordan*

Bochum University of Applied Sciences **Sep 2023 – Mar 2024**
Exchange Semester *Bochum, Germany*

Work Experience

Outlier AI **Dec 2024 – Present**
AI Specialist (freelancer) *Remote*

- Enhanced AI model accuracy by implementing **Reinforcement Learning from Human Feedback (RLHF)** techniques, reducing incorrect predictions by **20%** across a dataset of **100+ entries**
- Improved the accuracy and reliability of model outputs by identifying factual inconsistencies, fixing logical errors, and rewriting responses to better follow implicit and explicit instructions from the prompt

Bosch Engineering GmbH **Mar 2024 – Sep 2024**
Software Steering Intern *Abstatt, Germany*

- Designed and simulated advanced state estimation systems using **Kalman Filters** in **MATLAB** and **Python**, demonstrating their limitations in non-linear dynamics and irregular sensor sampling through hands-on modeling of both linear and non-linear systems
- Mastered **prompt engineering** principles while leveraging an internal **GPT-3.5 Turbo** model to validate AI-generated outputs, conducting cross-linguistic evaluations and learning how to optimize prompt structure, and tone to maximize clarity and truthfulness in internal decision-support tasks
- Built a predictive model using **Ensemble Learning** and **Random Forests** in Python to forecast Titanic survival outcomes, experimenting with feature selection and data preprocessing to achieve **top 20%** leaderboard placement and highlight the tradeoff between model complexity and generalization

Projects

Fake News Detection | *Graduation Project* **Flask**| ***Gradient Boosting***| ***BERT NLP***

* Adapted and fine-tuned an **XGBoost**-based fake news detection model using **TF-IDF vectorization** and key metadata features, achieving over **92%** accuracy on a labeled public dataset
* Enhanced model robustness and generalization through iterative evaluation and tuning of advanced machine learning models, including **SVM**, **LightGBM**, **Random Forest**, and **Logistic Regression**, with precision and recall consistently above **90%**
* Integrated a state-of-the-art **DistilBERT** transformer-based language model to capture nuanced linguistic patterns, further improving detection of subtle misinformation
* Deployed the ensemble of models using **Flask** as a backend service, with an interactive **HTML** frontend for real-time, web-based fake news detection and user feedback

Diabetes Classifier **SVM**| ***KNN***| ***Random Forests***

* Achieved a **74.92%** accuracy by developing a diabetes prediction model using **Support Vector Machine (SVM)** on a cleaned dataset of **70,692 cases** derived from **253,680 survey responses**
* Compared **4** machine learning algorithms (**SVM, KNN, Random Forests, Decision Trees**), demonstrating **SVM's** superior performance while highlighting overfitting issues in tree-based models

Technical Skills

Languages: Arabic (Native), English (Fluent), German(Intermediate B1)
Coding Languages: Pyhton, MATLAB, HTML
Developer Tools: Git, VS Code, Visual Studio, PyCharm
Libraries: Pandas, NumPy, Matplotlib, PyTorch, SciKit-learn, Seaborn, TensorFlow