

0797 187 0684 adrian@ionita.me Adrian Ionita <https://github.com/iceiony> 

# ADRIAN IONITA

**profile** *Data science engineer focused on computational modeling, with a strong background in software engineering and a deep understanding of the scientific and development challenges faced when building machine learning systems. I am able to support companies in data science tasks, develop research concepts and turn them into production code; recognized for a keen ability to engage with stakeholders, accurately discerning their true needs through attentive listening and insightful questioning. My approach ensures the delivery of solutions that are not only technically sound but also highly relevant and applicable, thereby empowering organizations to meet their strategic objectives effectively.*

**tech skills** **Programming**  
 Python, R, JavaScript, Test Driven Development (TDD), Docker, Azure, AWS, C++, SQL, MATLAB, C#, CUDA

**Data Science**  
 Principal Component Analysis, Independent Component Analysis, Fourier Domains, Monte Carlo Markov Chains, Cluster Analysis, Agent Based Modeling, Bayesian Methods, Particle Filters

**Machine Learning**  
**Deep Learning** (Classification & Regression), RNN, RBF Networks, SOM, Committee Machines, Reinforcement Learning, Hebbian Learning, Improving Generalisation & Training Speed, **Natural Language Processing (NLP)**, Decision Trees / Random Forests

**employment** **Programable.io (via SWBI) - contract** Nov 2023 - current

- Prototyping software solutions leveraging machine learning for defence and insurance customers.

*Key Skills: Python, TDD, Random Forests, Imbalanced Learning*

**Data Scientist, EDF Trading - contract** Nov 2021 - Nov 2022

- Deriving, from raw trade data (i.e. level 3), the exact logic to calculate price candles, saving £100k / year in licensing.
- Developing trade anomaly detection algorithm, helping company satisfy compliance and regulatory obligations.
- Developing prediction algorithm for next day's price correlations (96.5% accuracy); to estimate future profit and loss.
- Implementing liquidity algorithm for a more representative view of the market.
- Developing systems, tools and algorithms for extracting bid/offer information from emails, eliminating time waste from manual retrieval.

*Key Skills: Python, JavaScript, Flask, Docker, TDD, NLP, Random Forests, RNN*

**Data Science Engineer, South West Business Intelligence - contract** Mar 2023 - July 2023

- Implementing algorithm for predicting flight delays achieving 83% accuracy and an average prediction error of 15min.
- Supporting junior Node.js developers in development and deployment to AWS.
- Designed architecture for APIs and services enabling quick prototype release, winning a contract with the end client.

*Key Skills: Python, Flask, JavaScript, Node.js, AWS, TDD, NLP, Imbalanced Models*

**Data Scientist / Engineer, FibonacciLab - contract** Oct 2022 - Dec 2022

- Designing a supply management tool for a pharmaceutical company to help manage their complex chain of operations.
- Creating the technical document detailing the architecture, data science methods and deployment of system.

**R Developer, LLOYDS (via EPAM) - contract** Mar 2020 - Oct 2021

- Supporting the actuaries modelling central capital, in the smooth migration of their systems to Azure.
- Optimising R functionality to bring large performance improvements (10x) by optimising data access in Azure.
- Training actuaries on R best practices, improving the reliability of their code and day to day operations.

*Key Skills: R, Rcpp, C++, SQL, RSCONnect, Tidyverse, TDD*

**R Developer, UBS (via Accenture) - contract** Jun 2019 - Feb 2020

- Onboarding risk models into simulation platform ensuring reliable operation for regulatory runs.
- Setting up code base for continuous integration and deployment leading to a streamlined development process.
- Adapting code for execution at scale using SparkR.

*Key Skills: R, CI/CD, SparkR, TDD*

## additional projects

Data Scientist NLP, EDF Energy - <i>contract</i>	Dec 2018 - May 2019
<ul style="list-style-type: none"> <li>Consulting the business on AI/ML capabilities and lesser known limitations, shaping long term AI strategies</li> <li>Identifying value opportunities from applied data science, and language processing automation</li> <li>Delivering insights into customer queries and complaints, guiding business focus to high volume chat-bot cases</li> </ul> <p><i>Key Skills: Python, LDA topic modeling, CorEx topic modeling, Neural Network Classification, TDD</i></p>	
Data Scientist / R Developer, Deutsche Bank (via HCL) - <i>contract</i>	July 2018 - Apr 2019
<ul style="list-style-type: none"> <li>Bringing proof of concept model for assessing IT Risk into production readiness.</li> <li>Assessing model correctness and improving credibility with business stakeholders.</li> <li>Optimising computation time which reduced execution from weeks to hours.</li> </ul> <p><i>Key Skills: R, Oracle PLSQL, TDD</i></p>	
Further Employment History Available on <a href="#">LinkedIn</a>	2010 - 2016
Crypto Trading Algorithms and Analysis	Nov 2021 - Current
<ul style="list-style-type: none"> <li>Developing a volatility based trading algorithm that leverages the high price fluctuation of crypto assets.</li> <li>Algorithmically determining the optimal trading points for historic data.</li> <li>Estimating price direction from orderbook.</li> </ul> <p><i>Key Skills: R, C++, Dynet, ctree, algorithms</i></p>	
Semantic Representation In Human Language	Sep 2016 - July 2021
<ul style="list-style-type: none"> <li>Developing custom sentence tokenising, enabling reuse across non-english languages</li> <li>Researching unsupervised training technique for language structure and semantic representation</li> </ul> <p><i>Key Skills: R, Python, Deep Learning (RNN), PyTorch, Dynet, C++</i></p>	
Efficient input sampling for determining minimum viable data	Jan 2018 - Apr 2018
<ul style="list-style-type: none"> <li>Designing algorithm for a small data set, which determines the minimum number of records to form a representative view of the input space.</li> <li>Developing Bayesian inference technique to estimate the minimum viable records needed for training a model proposition.</li> </ul> <p><i>Key Skills: Python, Bayesian Methods / Probabilistic Programming</i></p>	
Fuel Savings Prediction Model	Jan 2017 - May 2017
<ul style="list-style-type: none"> <li>Designing statistical model that estimates fuel and repair savings from optimal tyre inflation for fleets of vehicles</li> <li>Guiding junior analyst in model implementation, teaching good code practices</li> </ul> <p><i>Key Skills: R, Monte Carlo Markov Chain</i></p>	
Customer Flow Forecasting, <a href="#">Udacity competition</a>	Feb 2017 - Mar 2017
<ul style="list-style-type: none"> <li>Processing large dataset of customer transactions into time series, enabling easier analysis and prediction</li> <li>Experimenting with various time series prediction approaches leading to a solution that placed team in top 10%</li> </ul> <p><i>Key Skills: R, ICA, Fourier Domains, Cluster Analysis, Regression</i></p>	
<b>education</b>	
MSc. Computational Neuroscience and Cognitive Robotics, University Of Birmingham,	2016
<p>Focused on computational methods, modeling and neural networks</p> <p>Graduated with distinction</p>	
MSc. Computer Security, University Of Birmingham,	2010
<p>Graduated with distinction</p>	
Oracle Academic Initiative, University Of Bucharest, Romania,	2009
BSc. Computer Science, University Of Bucharest, Romania,	2009
<p>Degree focused on algorithmics and theoretical computer science</p> <p>Equivalent of distinction</p>	
Diploma for Excellence in Computer Science, National Center For Excellence, Romania,	2006
<p>Awarded for academic performance in advanced algorithmics</p>	
<b>references</b>	
Available on request	