

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

# ADRIAN IONITA

**profile** *Data scientist focused on computational modeling with a strong background in software engineering. Education and industry experience lead to 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.*

**tech skills**

**Programming**  
 Python, R, SQL, MATLAB, AWS, Docker, C/C++, JavaScript, 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), RBF Networks, SOM, RNN, Committee Machines, Belief Propagation, Reinforcement Learning, Hebbian Learning, Improving Generalisation & Training Speed

**projects** **Efficient input sampling for determining minimum viable data** Jan 2018 - Current

- Given a small set of data, determine which records are required to achieve a representative view of the input space.
- Developing Bayesian inference techniques to estimate the minimum viable records needed for training a given model implementation.

*Key Technologies: Python, Bayesian Methods / Probabilistic Programming*

**Semantic Representation In Human Language** Sep 2016 - Current

- Developing custom sentence tokenising, enabling reuse across non-english languages
- Researching unsupervised training techniques for language structure and semantic representation

*Key Technologies: R, Python, Deep Learning (RNN), PyTorch, Dynet*

**Fuel Savings Prediction Model** Jan 2017 - May 2017

- Designing statistical model that estimates fuel and repair savings from optimal tyre inflation for fleets of vehicles
- Guiding junior analyst in model implementation, teaching good code practices

*Key Technologies: R, Monte Carlo Markov Chain*

**Customer Flow Forecasting, Udacity competition** Feb 2017 - Mar 2017

- Processing large dataset of customer transactions into time series, enabling easier analysis and prediction
- Experimenting with various time series prediction approaches leading to a solution that placed team in top 10%

*Key Technologies: R, ICA, Fourier Domains, Cluster Analysis, Regression*

**Computational Model For Tool Use Reasoning, University of Birmingham** Apr 2016 - Dec 2016

- Laid foundation for a computational model of human tool use, ensuring future extensibility and reproducibility
- Evaluated physics engines for faithful simulation of real physical interactions, enabling accurate experimentation
- Proposed novel technique for shape matching, that employs surface level correlation to mimic geometric reasoning

*Key Technologies: C++, MATLAB, Physics Simulation, PCA*

**Products on Virtual Shelves, Walmart Labs competition** Oct 2016

- Training RBF network on features extracted from product description, in order to assign products to shelves

*Key Technologies: MATLAB, PCA, NLP, RBF Networks*

**Robotic Model For Optimal Gaze Control, University of Birmingham**

Dec 2015 - Apr 2016

- Implemented neural network model that learns optimal gaze strategies from environment feedback
- Model considers sensory uncertainty in its internal belief state when evaluating choices for gaze locations
- Performance is far beyond random gaze, improving time efficiency by reducing number of ocular fixations

*Key Technologies: MATLAB, Particle Filters, RBF networks, Reinforcement Learning*

**employment****Data Scientist, Jigsaw.xyz - contract**

Jan 2018 - Current

- Led data science team and mentored junior developers in mathematical techniques.
- Delivered from the ground up a data science platform, exposing prediction services and analytics to the company.
- Mapping value opportunities for data science to key problems and enabling route to market.
- Researched novel technique to acquire the minimal data required in training machine learning with robust prediction.

*Key Technologies: Python, SQL, R, Node.js, AWS, Bayesian Modeling / Probabilistic Programming*

**Data Scientist NLP and founder, Iceiony Ltd**

Sep 2016 - Current

- Designed and developed a prototype for interactive stories using NLP, proving a new product feasibility
- Researching neural network techniques to enable better semantic parsing in conversational text

*Key Technologies: R, Python, Node.js, Deep Learning (RNN), PyTorch, Dynet*

**Software Developer, Opentable International Ltd - contract**

Aug 2017 - Oct 2017

- Migrated legacy solution from outdated .net to a newer version, increasing team productivity by enabling modern development tools
- Created docker build process to further streamline already impressive deployment and scaling infrastructure
- Developed new features crosscutting .net and node services to create a better experience to customers

*Key Technologies: C#, Node.js, Docker, Mono*

**Mobile Developer, BBC - contract**

Aug 2014 - Sep 2015

- Developing mobile apps for staff and reporters, enabling better access to internal systems
- Developing software to create authentication access cards, eliminating turnaround time and costs to suppliers
- Setting up build and infrastructure automation, streamlining the software development process

*Key Technologies: C#, Java 7, Reactive Extensions, Windows Phone, Android, Jenkins, Chef*

**Software Developer, Wonga.com**

Jun 2013 - May 2014

- Defined and developed the back-end service architecture, that improved system maintainability and scalability

*Key Technologies: C#, NserviceBus, Nhibernate, Jenkins, Powershell*

**Software Engineer, Wiggle Ltd**

Apr 2011 - Jun 2013

- Developed and integrated internal systems using micro-services architecture, solving the reliability issues crosscutting systems across the company

*Key Technologies: C#, SQL, ASP.NET, MVC2, T-SQL, NserviceBus, RavenDB, Python, Micro-Services*

**education****MSc. Computational Neuroscience and Cognitive Robotics, University Of Birmingham,**

2016

Focused on computational methods, modeling and neural networks

Graduated with distinction

**MSc. Computer Security, University Of Birmingham,**

2010

Graduated with distinction

**Oracle Academic Initiative, University Of Bucharest, Romania,**

2009

**BSc. Computer Science, University Of Bucharest, Romania,**

2009

Degree focused on algorithmics and theoretical computer science

Equivalent of distinction

**Diploma for Excellence in Computer Science, National Center For Excellence, Romania,**

2006

Awarded for academic performance in advanced algorithmics

**references**

Available on request