John Joseph Valletta

68 Glasney Place
Penryn
TR10 8LN

Mobile: 07847222721
jjvalletta@gmail.com

Profile

A data scientist who spent the past decade working on a wide spectrum of datasets, ranging from intricate mechanical systems to complex human diseases. By combining expertise from the fields of control engineering, machine learning and statistical modelling, I have developed data analytics methodologies to extract knowledge from complex and noisy datasets and visualise them.

Education and Qualifications

University of Southampton, UK   **2007 − 2011**
Ph.D.
- **Thesis**: Dynamic Modelling of the Effect of Habitual Physical Activity on Glycaemic Control and the Microvasculature in People with Type 1 Diabetes

University of Sheffield, UK   **2006 − 2007**
M.Sc. Control Systems Engineering (Distinction)
- **Project**: Model Structure Selection and Validation for Linear and Nonlinear Dynamic Models

University of Malta, Malta   **2001 − 2005**
B.Eng (hons.) Electrical Engineering (First Class)
- **Project**: Adaptive Fuzzy Control of an Inverted Pendulum System

Employment History

University of Exeter, UK   **2014 − present**
Medical Research Council (MRC) Research Fellow
- Integrating multi-omics and immuno-epidemiology data for biomarker discovery in malaria

McLaren F1 Racing Ltd., UK   **2011 − 2013**
Aerodynamic Applications Engineer
- Developed data analytics frameworks to translate noisy wind tunnel and track data into knowledge about air flow structures to direct the aerodynamic design process of F1 cars

University of Southampton, UK   **2010 − 2011**
PhD Plus Research Associate (now renamed EPSRC Doctoral Prize)
- Decomposing microvascular blood flow signals to identify potential biomarkers with links to cardiovascular risk factors and endothelial dysfunction

Hyperdrive Technologies, UK   **Aug 2010 − Oct 2010**
Research Engineer (Internship)
- In-depth market research into hybrid powertrain to support the business plan of a start-up

University of Southampton, UK   **2007 − 2010**
Teaching Assistant

Methode Electronics Malta Ltd., Malta 2005 – 2006
Automotive Quality Engineer (based in Detroit, USA)

Teaching Experience

Workshops

- *"Life beyond the P value - from elementary to advanced data analysis"*, BioMalPar XIV: Biology and Pathology of the Malaria Parasite coference, Heidelberg, Germany, May 2018
- *"Python for scientific research"*, University of Exeter, June 2017
- *"Introduction to machine learning for the life sciences"*, University of Exeter, June 2015

Undergraduate modules

- Scientific computing, Ecology and Evolution of Disease, Engineering Principles, Electrical Systems

Supervision

- *"Text mining of Twitter data"*, Mathematical Sciences Project, Jakub Kryczka, 2018-19
- *"Gaussian Processes for short time-series modelling"*, Mathematical Sciences Project, Alex Holt, 2018-19
- *"The Effects of Physical Activity on Capillary Blood Glucose Concentration in Type 1 Diabetes"*, Undergraduate Independent Research Project, Suzanne Shuttleworth, 2009

Awards and Grants

2017 University of Exeter researcher-led initiative award fund (£1,500) to run the workshop *"Python for scientific research"*

2015 University of Exeter researcher-led initiative award fund (£1,000) to run the workshop *"Introduction to machine learning for the life sciences"*

2011 Blue Riband Poster Prize at the 26th Meeting of the European Society for Microcirculation

2011 Conference Attendance Fund (£500) (University of Southampton) to present at the annual European Association for the Study of Diabetes conference in Lisbon, Portugal

2010 - 2011 EPSRC Ph.D. Plus Fellowship (now renamed to EPSRC Doctoral Prize)

2010 Conference Attendance Fund (£500) (University of Southampton) to present at the annual European Association for the Study of Diabetes conference in Stockholm, Sweden

2009 International Travel Grant (£500) (Royal Academy of Engineering) to present at the annual IEEE Engineering in Medicine and Biology conference in Minnesota, USA

2007 - 2010 Ph.D. Studentship (University of Southampton)

2007 Laverick-Webster-Hewitt Prize for outstanding academic performance (University of Sheffield)

2006 - 2007 EPSRC M.Sc. Studentship

2005 Best Academic Performance Prize (University of Malta)

Publications

J.J. Valletta[1], Y. Bediako[2], R. Adams[2], A. Reid[2], F.M. Ndungu[2] et al. (2018), "Repeated clinical malaria episodes associated with modification of the immune system in children", *submitted for review*

D.E. Gates, **J.J. Valletta**, C. Bonneaud and M. Recker (2018), "Quantitative host resistance drives the evolution of increased virulence in an emerging pathogen", *Journal of Evolutionary Biology* doi:10.1111/jeb.13366

T. Holding, **J.J. Valletta** and M. Recker (2018), "Multiscale immune selection and the transmission-diversity feedback in antigenically diverse pathogen systems", *The American Naturalist*, doi:10.1086/699535

J.J. Valletta and M. Recker (2017), "Identification of immune signatures predictive of clinical protection from malaria", *PLoS Computational Biology*, 13(10):e1005812, doi:10.1371/journal.pcbi.1005812

J.J. Valletta, C. Torney, M. Kings, A. Thornton and J. Madden (2017), "Applications of machine learning in animal behaviour studies", *Animal Behaviour*, 124:203-220, doi:10.1016/j.anbehav.2016.12.005

S.M. Ewings, S.K. Sahu, **J.J. Valletta**, C.D. Byrne and A.J. Chipperfield (2015), "A Bayesian network for modelling blood glucose concentration and exercise in Type 1 diabetes", *Statistical Methods in Medical Research*, 24(3):342-372, doi:10.1177/0962280214520732

J.J. Valletta, A.J. Chipperfield, G.F. Clough and C.D. Byrne (2014), "Daily energy expenditure, cardiorespiratory fitness and glycaemic control in people with Type 1 diabetes", *PLoS ONE* 9(5): e97534, 2014, doi:10.1371/journal.pone.0097534

J.J. Valletta, A.J. Chipperfield, G.F. Clough and C.D. Byrne (2012), "Metabolic regulation during constant moderate physical exertion in extreme conditions in Type 1 diabetes," *Diabetic Medicine* 29(6):822-826, doi:10.1111/j.1464-5491.2011.03453.x

J.J. Valletta, A.J. Chipperfield and C.D. Byrne (2009), "Gaussian process modelling of blood glucose response to free-living physical activity data in people with Type 1 diabetes," in *Proceedings of the 31st IEEE Engineering in Medicine and Biology Annual Conference, (EMBS 09)*, Minnesota, USA, pp. 4913-4916, 10.1109/IEMBS.2009.5332466

---

[1]joint first authors