

Bradley Wallace

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github.com/wallace-b/portfolio
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Python, Pandas, Numpy, sklearn, scipy,
Tensorflow, Pytorch, JavaScript, R, SQL,
C, C++, Java, HTML, CSS,

EDUCATION

*Georgia Institute of Technology, Atlanta, Georgia -
Master of Science, Computational Data Analytics - ongoing, Cumulative GPA: 3.9*

JAN 2020 - Expected DEC 2024 (Part-time)

Relevant Courses: Machine Learning, Data Mining and Statistical Learning, Computational Data Analytics, Human Computer Interaction, Data Analytics in Business, Mathematics for Algorithm Optimization and Data Structures, Modeling & Simulation, Object Oriented Programming
<Python, R, SQL, HTML, Arena, Java, C, C++>

*University of Adelaide, Adelaide, South Australia -
Bachelor of Civil & Environmental Engineering - First Class Honors, Cumulative GPA: 5.7*

MAR 2008 - DEC 2011 (Full-time)

Relevant Courses: Engineering Modeling and Analysis, Environmental Process Modeling, Engineering Mathematics (Linear Algebra & Multivariate Calculus)
Awards: Dean's Merit Certificate for Outstanding Academic Achievement, 2011
<Fortran, Matlab, VBA, C, C++, ArcGIS>

PROJECTS

Ensemble machine learning algorithm performance for property price prediction in Melbourne APR 2023
<Python>
[Report](#), [Code](#)

- Developed high accuracy and performance predictive regression models as measured by industry-standard error and statistical metrics ($r^2 = 0.837$) and a 100 report grade, by performing thorough data cleaning, exploratory data analysis, and developing and evaluating six models based on different ensemble and neural network model architectures.
- Filtered-down broad customer and property data using exploratory data techniques, distribution analyses, correlation analysis and variable selection machine learning algorithms.
- Visualized best-performing predictive regression model solution surfaces to enable intuitive geometric understanding of model performance, by projecting model predictions over a 2d grid using Principal Component Analysis dimensionality reduction.

Banking product recommendation system for Banco Santander APR 2023 <Python>

[Report](#), [Code](#)

- Delivered a profitable machine-learning backed banking product recommender as measured by high accuracy classification (9% test error), profitable predicted marketing efforts and a 100 report grade, by working collaboratively in a cross-disciplinary team of 5 people.

EXPERIENCE

City of Port Adelaide Enfield, Adelaide, South Australia — Traffic Engineer/Consultant

JUN 2018 - DEC 2021

- Successfully delivered four suburb-wide Local Area Traffic Management (LATM) Schemes supported by the greater community, to the value of \$2M per project, in the space of three financial years by managing the project planning, undertaking preliminary civil engineering design, engaging public stakeholders at all stages and working efficiently with project delivery teams of 10 or more members.
- Successfully developed project proposals for high traffic incident locations and cycling and walking projects to apply for State and Federal Government funding, receiving \$250K+ worth of funding in three consecutive financial years by undertaking prudent preliminary planning and design, feasibility analysis, and writing engineering reports with high attention to detail.
- Became a Chartered Professional Engineer in 2019 over a two-year period by reflecting on my 6+ years of engineering experience and professional development to demonstrate engineering competency across four core areas: personal commitment, obligation to community, value in the workplace and technical proficiency, through writing multiple personal reflective essays and a face-to-face meeting with a senior engineer.

EXAMPLE PROJECTS: [Dudley Park LATM](#), [5086 LATM #1](#), [5086 LATM #2](#)

City of Salisbury, Adelaide, South Australia — Civil & Transport Engineer

APR 2013 - JUN 2018

- Successfully delivered several capital works programs to the value of \$250K+ year-on-year on-time by undertaking engineering planning and design with high attention to detail, performing project progress checks on a small 5-person project team, and forecasting planned projects two-three years in advance.

ENGINEERING LEADERSHIP

- **Certified Professional Engineer**, 2019-Present
- Mentored three undergraduate and graduate civil and transportation engineers, 2017-2020
- Secretary & Treasurer, Salisbury Community Road Safety Group, Oct 2013-Nov 2017
- Undergraduate Dean's Merit Certificate for Outstanding Academic Achievement, 2011