

# BRAD SEGAL

I am a medical student in my clinical years with a passion for technology and development. While studying medicine, I have been working on a variety of projects such as an automated marking and analytics suite for medical exams, a management system for student-run events and 3D printing of medical models. I am an artificial intelligence enthusiast and am currently researching computer-aided chest x-ray diagnostic models as well as the generation of synthetic x-rays through generative adversarial networks.

## EDUCATION

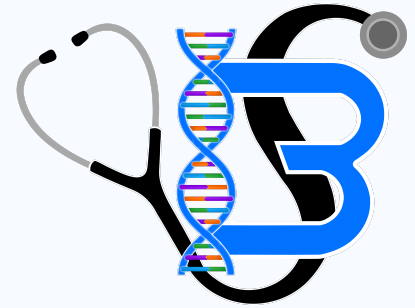
- 2021  
|  
2020

- **Master of Science, Engineering (MSc Eng)**  
University of the Witwatersrand  Johannesburg, South Africa
- 2021  
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2016

- **Bachelor of Medicine, Bachelor of Surgery (MBBCh)**  
University of the Witwatersrand  Johannesburg, South Africa
  - Vice President (2018 - 2019), Head of Communications (2017 - 2018) - Wits Students' Physicians Society
  - IT Manager (2017 - 2019) - Wits Students' Surgical Society
  - Class Representative (2017 - Present)
  - Best Undergraduate Research Poster (2019)
  - Best Physiology & Biochemistry Student (2018) - HS Ebrahim Memorial Award
  - Best Physics Student (2017) - Isaac Kushlik Memorial Prize
  - Top Ten Ranked Medical Student (2016, 2017)
  - Dean's Merit List (2016, 2017, 2018)
  - Golden Key Invitee (2016, 2017, 2018, 2019)
- 2020  
|  
2019



- **Machine Learning Engineer**  
Udacity
  - Received due to being a Top Performer in the AWS DeepRacer Tournament
  - Software Engineering Fundamentals
  - Machine Learning in Production
  - Neural Networks - Convolutional, Recurrent, Autoencoders, Transfer Learning
- 2019

- **AI Programming with Python**  
Udacity
  - Received as a Scholarship through the African App Launchpad Programme
  - Python Programming - Jupyter Notebooks, NumPy, Anaconda, Pandas, & Matplotlib
  - Linear Algebra & Calculus Essentials
  - Neural Networks in PyTorch






View this CV online at [segal.co.za](http://segal.co.za)

## CONTACT


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-  [+27 791-737-867](tel:+27791737867)

## SKILLS

-  Clinical Medicine
-  Research
-  AI / Machine Learning  
(PyTorch, Scikit-Learn, Caret)
-  Data Analysis
-  Data Visualization
-  3D Printing
-  Teaching / Tutoring
-  Programming:
  -  Python
  -  R
  -  Java
  -  JavaScript / Typescript





*Last updated on 2020-05-25.  
Written in R with use of the  
Pagedown.*







2015  
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2011

- **National Senior Certificate**  
King David Victory Park Highschool  Johannesburg, South Africa
  - Head of PR & Communication on SRC (2014 - 2015)
  - Summa Cum Laude Academic Excellence Award - Aggregate over 90% in final matric examinations
  - 9 Distinctions - English, Mathematics, Afrikaans, History, Information Technology, Advanced Programme Mathematics, Life Sciences, Physical Sciences, Life Orientation
  - Top 1% in National Results for English & Information Technology
  - Tri-Colour Honours - Academics, Debating & Community Service
  - Silver and Bronze President's Award - Duke of Edinburgh's International Award



## CERTIFICATES



- **Statistical Analysis with R for Public Health**  
Specialization, Coursera  Imperial College London
  - [Introduction to Statistics & Data Analysis](#)
  - [Linear Regression](#)
  - [Logistic Regression](#)
  - [Survival Analysis](#)
- **Bioinformatics**  
Specialization, Coursera  University of California San Diego
  - [Finding Hidden Messages in DNA](#) (With Programming Honours Track)
  - *Genome Sequencing - In Progress*
- **AI Programming with Python**  
Nanodegree, Udacity
- **Machine Learning Engineer**  
Nanodegree, Udacity
- **Mathematics for Machine Learning**  
Specialization, Coursera  Imperial College London
  - [Linear Algebra](#)
  - [Multivariate Calculus](#)
  - [Principal Components Analysis](#)
- **Deep Learning**  
Specialization, Coursera  deeplearning.ai
  - *Neural Networks & Deep Learning - In Progress*

-  **Tensorflow in Practice**  
 Specialization, Coursera  deeplearning.ai  
 · Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning
-  **Organ Donation: From Death to Life**  
 Course, Coursera  University of Cape Town
-  **AI for Medicine**  
 Specialization, Coursera  University of Cape Town  
 · AI for Medical Diagnosis  
 · AI for Medical Prognosis - *in progress*



## RESEARCH EXPERIENCE



Present  
|  
2019

-  **Data Scientist Intern**  
 Biomedical Informatics and Translational Science  Wits Health Consortium  
 · Within this position I have worked to provide insight into a variety of medical datasets with a focus on clinical data. I have largely worked to provide automated analytics and dashboards for surgical administrative teams as well as engaging in research aimed towards extraction of clinically relevant features from surgical discharge summaries obtained from the public sector. This research has examined both typical stored values such as procedure codes, ICD codes, etc. as well text mining of free text fields through natural language models to predict outcomes such as patient length of stay.



## GENERAL EXPERIENCE

Present  
|  
2017

-  **Class Representative**  
 Unit for Undergraduate Medical Education (UUME)  University of the Witwatersrand  
 · In this position I have had the responsibility to both organise and represent more than 350 students at faculty level. This has necessitated the creation of mass campaigns to obtain information from numerous individuals, from personal information collection to a variety of voting procedures, all of which has enabled me to accurately and reliably present issues to faculty and find adequate resolutions that benefit the class. This has necessitated a high degree of personal commitment to organisation, requiring the creation of specialized calendars, centralized resources and broadcast channels through various social media, all of which have ensured rapid mobilization of information and sharing of related resources. This has in recent years evolved to include full curriculum reviews as well as suggestions that have fed back into the creation of an improved medical syllabus.

2019  
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2016

### ● Academic Tutor

- This contractual tutoring position has enabled me to gain an in depth understanding in the communication of ideas and concepts in a manner optimal to the audience at hand, as well as enhancing my ability to organize work both for varsity and in my private capacity. I have tutored both primary & high school students in nearly every subject offered. Since starting I've spent several hundred hours tutoring in a one-on-one configuration. In recent years I have also diversified into a private tutor and have had to organise my own network of clients amid a rather busy academic schedule.

2016

### ● Market Trend Analyst

Matuson & Associates

- Within this position, I operated as an independent trend analyst; meeting with upper management of various companies as well as performing both hands-on and off research and data handling to produce comprehensive reports on the practical implementations and ramifications of policy changes



## PUBLICATIONS, POSTERS, AND TALKS

2019

### ● NLP Models for Length of Stay in Surgical Wards at a South African Academic Hospital

School of Clinical Medicine Biennial Research Day

📍 University of the Witwatersrand

- B. Segal, I. Mare, M. Klipin
- Awarded Best Undergraduate Research Poster