

Avi Bank
Computer Scientist
Personal Info
Website
avi-bank.com (working, kind of)
Phone
+27 82 048 48 49
E-mail
avibank1@gmail.com
Date of birth
1992-12-23
Programming Languages (Proficient)
Python
C
C++
Java
JavaScript
Matlab
Programming Languages (Familiar)
C#
Mathematica
VisualBasic
Markup & Data Query Languages
SQL
GraphQL
HTML CSS Markdown
LaTeX
Systems, Protocols, Programs & Frameworks
Linux
LDAP
Docker
MPI
CUDA
Intel Parallel Studio
Django
VueJS
NodeJS
Excel
Android
IOS
Skills
System Administration
High Performance Computing
Machine Learning
ARM
Nordic Semiconductor
Embedded Systems
Optimisation
Numerics
Mathematics
Formal Logic
Cryptography
Applied Computational Finance
Interests
Python for Finance & Insurance
Cyber Security
Music Composition
Piano, Guitar, Cello & Drums
Cycling, Hiking & Climbing
Cooking & Baking

Experience	
2019 -	<div>Operating Systems Head Tutor</div> <div>University of the Witwatersrand</div> <ul style="list-style-type: none">Organised the practical assignments and tutorials for a third year computer science course in operating systems (GNU/Linux and C).Handled a class of 118 studentsManaged three other assistant tutorsResponsible for setting and marking practical assignments in CDeveloped a strong understanding of operating systems and C through teaching it
2019 -	<div>Robotics Demo</div> <div>University of the Witwatersrand (RAIL LAB)</div> <ul style="list-style-type: none">Hired by RAIL LAB to extend my robotics project (a chess robot) into a demo to be used for impressing potential academic donors.
2017 - present	<div>HPC Instructor</div> <div>University of the Witwatersrand</div> <ul style="list-style-type: none">Trained teams to setup and use a cluster for the national CHPC Student Cluster CompetitionOrganised and maintained a cluster, for training and research at the Wits Mathematical Sciences Laboratories.Coached teams who placed 2nd and 1st place in the national SCC.
2018-06 - 2018-08	<div>Software Testing</div> <div>O C C Development</div> <ul style="list-style-type: none">Responsible for system integration and user space testing of a company's operations programResponsible for communicating status of acceptance-tests between client and software development team.Responsible for test design, implementation and reporting.Created an automated invoice generator based on time logs for my work.
2015-12 2016-07	<div>CSIR, Centre For High Performance Computing</div> <div>CHPC international team member for ISC 2016</div> <ul style="list-style-type: none">Trained teams to setup and use a cluster (3 commercial servers as nodes) for the national CHPC Student Cluster Competition (CSIR)Organised and maintained an office with 20 commercial servers (decommissioned STAMPEDE nodes) for training and experimental use at the Wits University Mathematical Sciences Laboratories.Coached teams who placed 2nd and 1st place in the national SCC.

Education	
2019	<div>University of the Witwatersrand, Computer Science, B.Sc Honours</div> <ul style="list-style-type: none">Advanced courses taught by world class researchers, and certainly the best in the country, if not the continent:Machine LearningComputer VisionDigital Image ProcessingHigh Performance ComputingData Analysis and ExplorationReinforcement LearningApplications of AlgorithmsHonours Research: Scaling Automated Machine Learning With Parallel Algorithms Deployed to a GPU Cluster. Supervisors: H.Wang, T.Celik, M.Woolway
2018	<div>University of the Witwatersrand, Computer Science, Mathematics, B.Sc</div> <ul style="list-style-type: none">80 % average (Computer Science)Favourite area of study in computer science: Machine LearningExtracurricular project: machine learning integrated IoT sensors in a power meter, for road cycling.Ran a High Performance Computing course for students
2011	<div>Eden College (NSC)</div> <ul style="list-style-type: none">6 distinctionsAcademic honoursTennis squad captainHead Boy

Projects	
Chess Robot	<ul style="list-style-type: none">Created a 2-arm (6 DoF each) chess playing robotReceived prize for best robotics project (ever)Hired to make a demo out of the project to show off to visitors of the universitySee it in action hereSource code
HPC Cluster Monitor	<ul style="list-style-type: none">A Linux tool to inspect loads on individual compute nodes, across an HPC clusterSource code
Wits Statistics Visualisation Dashboard	<ul style="list-style-type: none">statistics visualisation dashboard for Wits University lecturers - Created as part of a software design course instructed by Dr. Terence Van Zyl, with Dr. Steven James as the team's client.Developed using Agile workflowTeam of 7 developersSupports custom queries to produce charts for any data desiredRobust Django backend for handling of Big DataModern frontend written in Vue.jsSource code
More Projects	<ul style="list-style-type: none">Gitlab projectsGithub projects