Jehan Singh

Curriculum Vitae

Personal Details

- Name: Jehan Singh
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Personal Profile

I am an Electrical and Computer Engineering graduate at the University of Cape Town. I am an adaptable person, and I can take on a wide variety of tasks in whatever role I find myself performing. I have a particular interest and experience with Embedded System/IoT development, Cybersecurity, and Linux systems administration and operations, especially with regards to cluster computers and high-performance computing. I am generally capable within the field of computer engineering. I believe that I can find useful solutions to a variety of problems.

I have started working on small personal projects in my spare time, which can be found on my GitHub at https://github.com/KaliumPuceon/ and I also have some experience with basic website design, which can be seen on my personal website, https://awful.cloud/

Education

- 2016-present: Studying towards BSc. Eng. in Computer Engineering at the University of Cape Town
- 2015: Graduated from Northcliff High School with distinctions in Mathematics, Information Technology, Life Sciences, Physical Sciences, and Life Orientation, as well as a merit in Advanced Program Mathematics

Work Experience and Notable Projects

Winning Student Cluster Competition ISC 2019

- Competed in and won the ISC Student Cluster Competition 2019 along with my team on behalf of the Centre for Scientific and Industrial Research

- Placed first out of 14 teams:
  https://www.chpc.ac.za/index.php/news2/241-south-africa-wins-international-student-cluster-competition-for-the-fourth-time
- Designed, prepared, optimized and ran benchmarks on a six-node cluster
- Reference: David Macleod dmacleod@csir.co.za

Penguin Data Collection Project

- Designed, programmed and integrated a Raspberry Pi based embedded system for collecting images of penguins on St. Croix Island from 2019 to 2020
- Developed software which must be robust enough to run unchecked for up to six months and recover from failures
- Integrated and adapted system to support and fit with other research systems
- Subject of my undergraduate capstone project and thesis, which can be found here:
  https://awful.cloud/upl/thesis.pdf
- Reference: Justin Pead: justin.pead@uct.ac.za

Vacation work at ABSA Aliens

- A two-week placement at the ABSA Aliens in January 2018
- Prototyped a system for locating a device within a building based on pre-existing wi-fi networks, the initial prototype can be found here:
  https://github.com/KaliumPuceon/FieldMap
- Learnt valuable skills for working with a team during development
- Reference: Alwyn van Wyk: alwyn.vanwyk@absa.co.za

Undergraduate internship at MWR Information Security

- A two-week training internship with MWR Information Security, Johannesburg in December 2017
- Received training and experience with webapp security as well as in formal reporting on such faults
- Gained basic familiarity with a variety of security testing tools
- Reference: Brian Schirmacher: brian.schirmacher@mwrinfosecurity.com

Vacation work at JourneyApps, Stellenbosch

- Three-week vacation work placement at JourneyApps Stellenbosh, July-August 2017
- Worked on NodeJS API server wrapper to reduce the number of API calls needed

- Gained familiarity with asynchronous javascript programming
- Reference: Rudolf Meijering: rudolf@journeyapps.com

Skills

- Experience using the programming languages and tools Python (including scientific computing packages), Lua, Pascal, and Linux Shell Scripting tools.
- Elementary or Basic knowledge of C, NodeJS, Java (including some Android development), Perl, HTML, CSS, and SQL
- Significant experience with Linux system administration and environment management across a variety of distributions and environments, including Linux cluster environments and web servers
- Competence with both Microsoft Office packages and LaTeX document creation tools
- Competence with both Windows and GNU/Linux Operating Systems
- Experience with electronic construction and hardware design
- Capable of quickly learning about new tools or systems as needed
- Experience at working with technical equipment or documents

Additional Achievements

- Led the team that placed 1st in the 2018 South African Student Cluster Competition
- Competed in the 2013 World Robotics Olympiad, placing 1st nationally and 23rd internationally.