Lemuel Haring CV
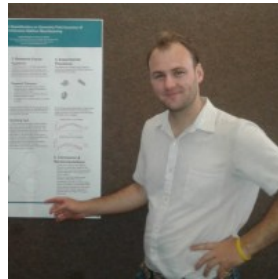
Python Machine Learning Programmer / Metallurgist

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Personal Statement

With an engineering background I help teams utilise data science and machine learning to optimize industrial processes. From filtration mechanisms, NLP article classification or automated experiments there are places to improve. More and more industries are falling behind with the emergence of wide scale adoption of ready to go AI models as they can not compete or adapt the technology. Don't end up a relic of the past.

Personally I enjoy bridging gaps between old industries and scale-able technologies, tinkering with arduinos, raspberry pi and learning new fields of engineering and researching topics of my interest(space, machine learning, automation). The space industry's growth is rapidly increasing in the past 3 years and fueling my drive even more.

Programming and machine learning are my favourite tools due to the accessible leverage. An idea can be conceived, simulated and thus tested out with minimal capital investment. Menial patterns can be automated providing users with more creative power, examples include CNC machining and object detection in satellite imagery. Additionally programming offers the utility to create systems where customers can add value to each other, thus becoming a more passive system generating income/resources.

I carry the distilled knowledge of all my previous mentors which I expand by learning from new mentors and sharing with other learners. In environments where shared knowledge improves the teams efficiency and impact employee satisfaction also improves.

Education

UCT Data Science with Python   *Online Short Course*
University of Cape Town   *2021-08-02 - 2021-09-30*

Bachelor of Engineering: Metallurgical Engineering   *Pretoria, Gauteng, South Africa*
University of Pretoria   *2020*

Matric   *Ermelo, Mpumalanga, South Africa*
Ligbron – Ligbron Academy of technology   *2013*

Skills

Languages	• English, Afrikaans, German
Programming Languages	• Python (ScraPy, Selenium, Sklearn, Keras) • Latex (Typesetting)
Proficient Programs	• Linux experience (Ubunto, Rasbian) • IDE'S (VScode, Eclipse, ...) • MS Office • Creo Parametric (CAD) • Apache NiFi, MySQL • Mathworks Matlab (basic proficiency) • QGIS (basic proficiency)
Equipment Experience and Expertise	• Industrial and Desktop Extrusion 3D Printers • Filter Presses • Arduino Micro Controller and Raspberry Pi
Software Developer (Python)	• Sourcing data for data lakes through automated scripts • Deploying Machine Learning algorithms • Settings up and working with REST API's • Apache NiFi data flow and routing

Experience

The Data Company   *Boksburg, Gauteng*

PYTHON PROGRAMMER   *February 2021 - October 2021*

• Development of machine learning systems from research through to production servers
• Data collection/scraping/API interfacing scripts to produce data lakes
• ML training management and optimizations for unique paths
• Deploying production code on production servers
• Writing software to be launched on Unix systems and Windows
• Fast machine learning deployments with transformers
• Fraud analysis systems (DataWalk)
• Stack: Python, MySQL, JavaEE(Maven, xhtml(Primefaces))
• Machine Learning stack: Python, TensorFlow, Keras, sklearn, flask

FiltaQuip   *Centurion, Gauteng*

PROCESS ANALYST (MINE SLURRY DEWATERING)   *August 2020 - December 2020*

• Feasibility study on dewatering mechanics for production expansion
• Data collection, processing and process improvement using Matlab
• Pump and fluid flow mapping
• Contact Person:
    – Johan Bezuidenhout
    – johan.b@filtaquip.co.za
    – 082 785 0530

Denel Dynamics   *Centurion, Gauteng*

PROCESS ANALYST (ADDITIVE MANUFACTURING)   *March - October 2019*

• 3D Printing operator and process investigations
• Determined dynamic printing tolerances based on design geometry and printing orientation.
• Tool designing for missile optics assembly
• Contact Person:
    – Cameron Wright
    – cameron.wright@deneldynamics.co.za
    – 0814111334

Ex Mente   *Pretoria Area, Gauteng*

STUDENT INTERN   *Nov. 2017 - Jan. 2018*

- Successfully development of a chemical reactor using python integrated CAD software(Salome) to allow for geometrical changes and 3D printer integration.
- Further development of a fully automatic experiment setup that regulated process parameters and reported data to a main data logger and controller (Raspberry Pi and Arduino)
- Contact Person:
    - Johan Zietzman
    - johanzietsman@ex-mente.co.za

VANCHEM Vanadium Products (PTY) LTD   *Witbank, Mpumalanga*

R&D LAB ASSISTANT   *Nov. 2014 - Feb. 2015*

- Research of a potential liquid vanadium product for export. Proof of concept was successfully completed and moved to product process design. The work consisted of wet chemical syntheses guided by researched electro chemistry and plant process knowledge
- Sample collection on leaching dams, kilns, ball mills and dump heaps

Projects

Industrial 3D printing

- Determined the print accuracy of a Markforged printer
- Determined how part design influenced part print accuracy based on the geometries used and where they were used.

Automated Experiments

- Integration of measurement equipment and pumps with a Arduino as micro controller and Raspberry pi as a logger to control an experiment. System is able to be changed to handle other experimental setups

Vanadium Solutions

- Development of exportable vanadium solution that is manufactured in the current plant with the least capital investment for new equipment

Personal Details

Character

- Focused
- Eager to learn
- Goal Driven
- Experienced Problem Solver
- Business Principles
- Good communication

Hobbies

- Factorio (Bobs & Angels or Pyanodons)
- Following space exploration and advancements
- Tinkering with micro controllers (Arduino, Raspberry Pi)
- Trying to get a career started in SpaceTech

Information

- Name: Lemuel
- Surname: Haring
- Known as: Liam, Lemuel
- Gender: Male
- Race: White
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