Daniel **Kneipp**

Software Engineer

"Do what you can, with what you have, where you are." -- Theodore Roosevelt

Contact

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in://daniel-kneipp
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Languages

Brazilian Portuguese
[Mother tongue]
English
[Professional working proficiency]

Programming

C++, Python, R, JavaScript,
Matlab, Java, Bash

Skills

Machine Learning:

Optimization:

Computer Vision:

Text Mining:

Experience

Full time

2017–Now **Research and Development Analyst** *MOST Specialist Technologies*

Main activities:

- Clustering and analysis of textual medical records;
- Document classification based on its textual content;
- Development of object detection algorithms for ID recognition (Demo: http://www.most.com.br/mostqi/index.html)
- Modular deployment of solutions using Docker and AWS.

Part time

2016–2017 **Research Program** *Invent Vision*

Deep Learning research for Computer Vision applications. Implementation of a set of tools to speedup the development (including synthetic dataset generation) and deployment of image classifiers. Application deployment in embedded systems (NVIDIA Jetson). Project name: Smart monitoring system by georeferenced images for railways applications.

2015–2016 **Trainee** *Invent Vision*

Research and implantation of distributed computing systems (based on Hadoop and Spark), developing simple applications made to run across clusters.

2013–2014 **Undergraduate Researcher** *Invent Vision*

Development of an efficient drowsiness detector based on face expressions (using face and eye tracking algorithms). Deployment made on x86 computers and ARM embedded systems. Project name: System for photometric inspection and automated adjustment of vehicle headlights. Project funded by CNPq (National Council for Scientific and Technological Development).

Education

2016–2018 **Master** of Science *Federal University of Minas Gerais (UFMG)*

Comptuer Science – NanoComp lab. member (http://www.nanocomp.dcc.ufmg.br/).
My research area was DNA Computing. The objective was to propose functional chemical circuits for classification tasks using Chemical Reaction Networks theory as a programming language and DNA strands as the hardware. One of the results of my research is a R package to simulate logic circuits based on DNA. See https://github.com/DanielKneipp/DNAr to know more.

2012–2015 **Bachelor** of Science *Federal University of Viçosa (UFV)*
Computer Science
I received the Presidente Bernardes Medal for my academic excellence. In my undergraduate thesis I developed an algorithm based on a bio-inspired meta-heuristic to solve a combinatorial optimization problem. Title: A Genetic Algorithm for Multi-Component Optimization Problems: The Case of the Travelling Thief Problem.

2010–2011 **Technician's** Degree *SENAI School*
Informatics
I Studied the basics of Computer Architecture, Software Development and Network Infrastructure.

Awards

2015 **University Medal** *Federal University of Viçosa*
The *Presidente Bernardes* Medal is awarded to students with academic excellence.

Communication skills

2017 **Oral Presentation** *Evostar Conference*
Presented the research I conducted to obtain my Bachelor's degree. It was about the usage of Genetic Algorithms to optimize and solve a multi-component combinatorial problem.

Publications

Articles in journals

Algorithm Selection in Adversarial Settings: From Experiments to Tournaments in StarCraft
Anderson Rocha Tavares, Daniel Kneipp S. Vieira, Tiago Negrisoli Oliveira, Luiz Chaimowicz
IEEE Transactions on Games (2018). Institute of Electrical and Electronics Engineers (IEEE), 2018

A Comparison of Algorithms for Solving Multicomponent Optimization Problems
Daniel Kneipp Sa Vieira, Marcus Henrique Soares Mendes
IEEE Latin America Transactions 15.8 (2017) pp. 1474–1479. IEEE, 2017

International conferences/proceedings

A Genetic Algorithm for Multi-component Optimization Problems: The Case of the Travelling Thief Problem
Daniel KS Vieira, Gustavo L Soares, Joao A Vasconcelos, Marcus HS Mendes
European Conference on Evolutionary Computation in Combinatorial Optimization, 2017