

# Daniel Kneipp

Software Engineer

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

## Contact

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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;
- Modular deployment of solutions using Docker.

### 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)*  
*Computer Science*

My research area is DNA Computing. The objective is to propose functional chemical circuits for classification tasks using Chemical Reaction Networks theory as a programming language and DNA strands as the hardware. I'm a NanoComp lab. Member (<http://www.nanocomp.dcc.ufmg.br/>).

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

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