

# Robin VOGEL, PhD

## Computer Vision R&D Team Leader

FR citizen ◊ Looking for work in Paris, France ◊ currently in office  
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### SKILLS AND INTERESTS

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<b>Skills</b>	Machine learning, statistics, ranking, deep learning, computer vision, metric learning.
<b>Interests</b>	Software engineering (design patterns), 3D reconstruction/rendering, information retrieval, fair ML.
<b>Soft skills</b>	Curiosity, autonomy, communication, problem-solving, planning, scheduling and creativity.
<b>Programming</b>	Python (numpy, torch, tensorflow, openCV, matplotlib, sklearn, pandas, scipy, django), Bash, C/C++
<b>IT Tools</b>	Unix, Vim, git, github, SQL, Jira, L <sup>A</sup> T <sub>E</sub> X, Microsoft Windows (Office, Visual Studio, PowerShell)

### WORK EXPERIENCE

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04/2023-today Paris, France	<b>Monk AI (acquired by ACV Auctions), Machine Learning Lead</b> <i>Scale-up (30 people) company specialized on AI-based vehicle inspection.</i> <ul style="list-style-type: none"><li>· Lead half of the ML / R&amp;D team: 3 direct reports.</li><li>· Definition and planning of technical projects (<i>epics</i>).</li><li>· Definition of interactions with other technical teams (data-eng, product, labeling).</li><li>· Hiring and training of new hires (responsible for 2 permanent positions, 2 interns).</li></ul>
04/2022-2023	<b>Machine Learning Engineer</b> <ul style="list-style-type: none"><li>· Lead all our new 3D computer vision initiatives.</li><li>· Defined company benchmarks, improved greatly the performance of damage detection.</li><li>· Defined new processes for the team, trained an intern.</li></ul>
01-12/2021 Edinburgh, UK	<b>University of Edinburgh, Research Assistant</b> <i>VICO research group, under the supervision of Hakan Bilen.</i> <ul style="list-style-type: none"><li>· Studied expert models for visual recognition.</li><li>· Studied label smoothing and knowledge distillation.</li><li>· Studied long-tail recognition.</li></ul>
2017-2020 Paris, France	<b>IDEMIA (formerly Morpho), Research Engineer/PhD Student (CIFRE)</b> <i>Leading firm in biometric identification systems.</i> <ul style="list-style-type: none"><li>· Conducted studies to improve facial recognition algorithms.</li><li>· Supervised an intern and a student collaboration project with the MVA master degree.</li></ul>
06-10/2015 Paris, France	<b>Eleven Strategy, Junior Consultant/Data Scientist</b> <i>Strategy consulting firm specialized on digital and data-driven transformation.</i> <ul style="list-style-type: none"><li>· Performed data visualization and data analysis tasks.</li></ul>
06-08/2014 Paris, France	<b>Coyote System, Research Engineer</b> <i>Young french tech company that provides radar warning systems.</i> <ul style="list-style-type: none"><li>· Preliminary statistical analyses for a new R&amp;D project.</li></ul>

### OTHER

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**Languages:** French: Native | English: Fluent (TOEIC 975/990) | Spanish: Beginner | German: Beginner  
**Reviewing:** Conferences: NeurIPS (2019-2021), ICML (2020-2021), LOD 2020, ICLR 2021. | Journals: EJS, JMLR.  
**Coding questions:** Solved  $\geq 27\%$  of Leetcode (612/2184 problems). | Google Code Jam 2020-22 (Best rank R1: 1768).  
**Sports:** Running (best half-marathon 1h35min), calisthenics, weightlifting (best snatch: 65kg, clean&jerk: 82kg), swimming.

## EDUCATION

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2016-2020 Paris, France	<b>Télécom Paris, PhD Degree</b> <i>Industrial PhD (CIFRE) supervised by Stephan Cléménçon.</i> We studied metric learning as statistical ranking on pairs (similarity ranking). Similarity ranking is a direct mathematical formalization of biometric identification. <ul style="list-style-type: none"><li>· Studied statistical machine learning, ranking, metric learning, fairness.</li><li>· Authored several ML papers at top conferences (ICML, AISTATS, ECML, ...).</li><li>· Attended the Machine Learning Summer Schools (MLSS 2018).</li></ul>
2015-2016 Paris, France	<b>École Polytechnique, Master's Degree (M2 Data Sciences)</b> <i>Master program in the first engineering school in France.</i> <ul style="list-style-type: none"><li>· Advanced machine learning course (theory, SVMs, dataviz, neural nets, un/semi-supervised learning).</li><li>· Big data analytics course (Scala, Spark, SQL).</li><li>· Other selected courses: theory of optimization, kernels methods for machine learning.</li></ul>
2013-2016 Paris, France	<b>ENSAE Paris, Engineer's Degree</b> <i>Top engineering school in statistics and machine learning.</i> Followed the data science, statistics & learning curriculum: <ul style="list-style-type: none"><li>· Probability theory, computational and theoretical statistics, programming (python, R, C++).</li><li>· Introduction to economics, history of economics and sociology.</li></ul>
2011-2013 Lyon, France	<b>Lycée du Parc, Classe Préparatoire MPSI-MP</b> <i>Intensive preparatory course for top engineering schools.</i> <ul style="list-style-type: none"><li>· Two-year program in fundamental mathematics, physics and theoretical computer science (OCamL).</li></ul>

## APPENDIX - LIST OF PUBLICATIONS

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AISTATS 2021	<i>Learning Fair Scoring Functions: Fairness Definitions, Algorithms and Generalization Bounds for Bipartite Ranking.</i> <b>R. Vogel</b> , A. Bellet, S. Cléménçon.
AISTATS 2020	<i>A Multiclass Classification Approach to Label Ranking.</i> S. Cléménçon and <b>R. Vogel</b> .
ESANN 2020	<i>Weighted ERM: Transfer Learning based on Importance Sampling.</i> <b>R. Vogel</b> , M. Achab, S. Cléménçon, C. Tiller.
ECML 2019	<i>Trade-offs in Large-Scale Distributed Tuplewise Estimation and Learning.</i> <b>R. Vogel</b> , A. Bellet, S. Cléménçon, O. Jelassi and G. Papa.
LOD 2019	<i>On Tree-based Methods for Similarity Learning.</i> S. Cléménçon and <b>R. Vogel</b> .
ICML 2018	<i>A Probabilistic Theory of Supervised Similarity Learning for Pointwise ROC Curve Optimization.</i> <b>R. Vogel</b> , A. Bellet and S. Cléménçon.