

Fernando Darío Almeida García



About

Universidade Estadual de
Campinas (UNICAMP)
Av. Albert Einstein
13083-852, SP, Brazil

Languages

English
Portuguese
German
Spanish (native)

Software

C++, IDL, Matlab,
Python, Matlab,
Maple, Latex, Github,
Mathematica Wolfram

Hobbies

Basketball
Music

Interests

Radar and Aerospace Systems, Geoscience and Remote Sensing, Digital Signal Processing, Statistical Modeling, and Probability Theory

Contact

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in fernando-almeida-67162b119; R⁶: Fernando_Almeida36

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Education

- | | | |
|------------|---|--|
| Since 2016 | Ph.D.(c) in Electrical Engineering
<i>Telecommunications and Telematics</i> | Universidade Estadual de Campinas, Brazil |
| 2013–2015 | M.Sc. in Electrical Engineering
<i>Telecommunications and Telematics</i> | Universidade Estadual de Campinas, Brazil |
| 2007–2011 | B.Sc. in Electrical and Electronics Engineering
<i>Telecommunications</i> | Universidad de las fuerzas Armadas-ESPE, Ecuador |

Experience

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| Since 2018 | Universidade Estadual de Campinas, Brazil
– <i>GLRT-based detection for nonfluctuating targets in phased array radars</i>
– <i>CA-CFAR detection in ground Weibull-distributed clutter</i>
– <i>Subpulse processing for high-velocity targets</i>
– <i>CA-CFAR detection in sea clutter with K-distributed statistics</i> | Researcher |
| 2018-2020 | EMBRAER S.A., Brazil
– <i>Adaptive filtering and detection algorithms for a Multi-mode phased array radar</i> | Researcher |
| 2016-2017 | BRADAR - Defesa & Segurança, Brazil
– <i>Performance Detection over ground Weibull Clutter using a Multi-mode phased array radar</i> | Researcher |
| 2015-2016 | BRADAR - Defesa & Segurança, Brazil
– <i>Analytical radar simulation for irregular terrains</i>
– <i>Evaluation of multipath effects over non-homogeneous areas</i> | Researcher |

2013-2015	Universidade Estadual de Campinas, Brazil – Project and design of optimum and suboptimum detectors for phased array meteorological radars – Performance evaluation of a low-cost linear phased array radar for meteorological applications	Researcher
2012-2013	Cellsystem S.A., Ecuador – Implementation of Mobile Base Stations	Field Engineer
2011-2011	Huawei Technologies Co., Ltd., Ecuador – Evaluation of CDMA 450 systems	Radio Frequency Analyst

Training

2015	Stochastic geometry for mobile communications <i>Universidade Estadual de Campinas (UNICAMP)</i>	São Paulo, Brazil
2015	Device-to-device Communications <i>Universidade Estadual de Campinas (UNICAMP)</i>	São Paulo, Brazil
2015	Internet of Things (IoT), Technologies and Applications <i>Universidade Estadual de Campinas (UNICAMP)</i>	São Paulo, Brazil
2011	Addressing Spectrum Scarcity through Optical Wireless Communications <i>Universidade Estadual de Campinas (UNICAMP)</i>	São Paulo, Brazil
2014	Certificado de Proficiência em Língua Portuguesa para Estrangeiros (CELPE-BRAS) <i>Instituto Brasileiro–Equatoriano de Cultura (IBEC)</i>	Quito, Ecuador
2012	English Language Proficiency <i>Universidad de las Fuerzas Armadas-ESPE</i> <i>Centro de Educación Continua (CEC) – EPN</i>	Quito, Ecuador
2012	Cisco Certified Networking Associate (CCNA) Security <i>CISCO Systems</i>	Quito, Ecuador
2012	Cisco Certified Networking Associate (CCNA): LAN Switching and Wireless <i>CISCO Systems</i>	Quito, Ecuador
2011	Cisco Certified Networking Associate (CCNA): Routing Protocols and Concepts <i>CISCO Systems</i>	Quito, Ecuador
2011	Cisco Certified Networking Associate (CCNA): Networks Fundamentals <i>CISCO Systems</i>	Quito, Ecuador
2011	Cisco Certified Networking Associate (CCNA): Accessing the WAN <i>CISCO Systems</i>	Quito, Ecuador

Scholarships & awards

2018	Researcher Scholarship <i>EMBRAER S.A.</i>	Brazil
2018	Researcher Scholarship <i>Fundo de Apoio ao Ensino à Pesquisa e Extensão (FAEPEX)</i> <i>Universidade Estadual de Campinas (UNICAMP)</i>	Brazil
2016	Researcher Scholarship <i>BRADAR - Defesa & Segurança</i>	Brazil
2016	PhD Scholarship <i>Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)</i>	Brazil
2015	Graduate Scholarship <i>Secretaría Nacional de Educación Superior, Ciencia y Tecnología (SENESCYT)</i>	Ecuador
2015	Researcher Scholarship <i>BRADAR - Defesa & Segurança</i>	Brazil
2014	Master Scholarship <i>Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)</i>	Brazil
2013	Graduate Scholarship <i>Secretaría Nacional de Educación Superior, Ciencia y Tecnología (SENESCYT)</i>	Ecuador

References

Prof. Ph.D. Michel Doub Yacoub: ✉ michel@decom.fee.unicamp.br

Prof. Ph.D. José Cândido Silveira Santos Filho: ✉ candido@decom.fee.unicamp.br

Prof. Ph.D. Gustavo Fraidenaich: ✉ gf@decom.fee.unicamp.br

Ph.D. Andrea Carolina Flores Rodriguez: ✉ carolina.flores@embraer.com.br

M.Sc. Marco Antonio Miguel Miranda: ✉ marco.miranda@embraer.com.br

Ph.D. Henry Ramiro Carvajal Mora: ✉ henry.carvajal@udla.edu.ec

Publications

Journal Articles

- [1] F. D. A. García, A. C. F. Rodriguez, G. Fraidenaich and J. C. S. Santos Filho, "CA-CFAR Detection performance in homogeneous Weibull clutter", in *IEEE Geosci. Remote Sens. Lett.*, vol. 16, no. 6, pp. 887-891, Jun. 2019.
- [2] F. D. A. García, H. R. C. Mora, N. V. O. Garzón and J. C. S. Santos Filho, "Alternative representations for the probability of detection of non-fluctuating targets", in *IET Electron. Lett.*, vol. 56, no. 21, pp. 1136-1139, Oct. 2020.
- [3] F. D. A. García, H. R. C. Mora, G. Fraidenaich and J. C. S. S. Filho, "Square-Law Detection of Exponential Targets in Weibull-Distributed Ground Clutter," in *IEEE Geosci. Remote Sens. Lett.*, to be published. DOI:10.1109/LGRS.2020.3009304.
- [4] F. D. A. García, M. A. M. Miranda and J. C. S. Santo Filho, "New findings on GLRT-based detection of nonfluctuating targets in phased array radars", in *IEEE Access*, under review.
- [5] F. D. A. García, A. S. Guerreiro, G. R. de Lima Tejerina, J. C. S. Santo Filho, G. Fraidenaich, and M. D. Yacoub, "Doppler estimation for high-velocity targets using subpulse processing and the Chinese remainder theorem", in *IEEE Trans. Signal Process.*, under review.
- [6] F. D. A. García, F. R. Parente, G. Fraidenaich and J. C. S. Santo Filho, "On sums of Weibull variates and applications in CA-CFAR detection over homogeneous Weibull-distributed ground clutter", in *IEEE Trans. Aerosp. Electron. Syst.*, under review.
- [7] F. D. A. García, A. C. F. Rodriguez, F. R. Parente, G. Fraidenaich and J. C. S. Santo Filho, "Highly accurate closed-form approximation for the probability of detection of Weibull fluctuating targets in non-coherent detectors", in *IEEE Trans. Aerosp. Electron. Syst.*, under review.
- [8] F. D. A. García, F. R. Parente, G. Fraidenaich and J. C. S. Santo Filho, "On sums of Weibull variates and applications in CA-CFAR detection over homogeneous Weibull-distributed ground clutter", in *IEEE Trans. Aerosp. Electron. Syst.*, under review.

International Congresses

- [1] F. D. A. García, M. A. M. Miranda and J. C. S. Santo Filho, "Optimum detection for a class of stationary meteorological radars", in *Proc. 26th European Signal Processing Conference (EUSIPCO)*, pp. 2258-2262, Italy, Rome, Sept. 2018.
- [2] F. D. A. García, A. S. Guerreiro, G. R. de Lima Tejerina, J. C. S. Santo Filho, G. Fraidenaich, M. D. Yacoub, M. A. M. Miranda, and H. Cioqueta, "Probability of Detection for unambiguous doppler frequencies in pulsed radars using the Chinese Remainder Theorem and Subpulse Processing", in *Proc. 53th Asilomar Conference on Signals, Systems, and Computers*, pp. 138-142, Pacific Grove, CA, USA, Nov. 2019.

- [3] F. D. A. García, H. R. C. Mora and N. V. O. Garzón, "GLRT Detection of Nonfluctuating Targets in Background Noise Using Phased Arrays" in *Proc. 2019 International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob)*, Barcelona, Spain, 2019, pp. 1-8.
- [4] R. A. C. Flores, F. D. A. García, G. R. de Lima Tejerina, G. Fraidenaich, J. C. S. Santo Filho, M. D. Yacoub, M. A. M. Miranda, A. Bertetich, and J. R. Moreira Neto, "Radar coverage over irregular terrain: A practical algorithm for multipath propagation," in *Proc. 2018 IEEE Radar Conference (RadarConf18)*, Oklahoma, USA, 2018, pp. 1383-1388.
- [5] H. R. C. Mora, F. D. A. García, N. V. O. Garzón and C. de Almeida, "On the Bit Error Rate of OFDMA Employing Short Cyclic Prefix and Maximal Ratio Combining," in *Proc. 2019 IEEE Colombian Conference on Communications and Computing (COLCOM)*, Barranquilla, Colombia, 2019, pp. 1-6.
- [6] F. D. A. García, M. A. M. Miranda and J. C. S. Santo Filho, "Detecção ótima e subótima para um radar meteorológico com três antenas fixas", in *Proc. XXXIII Simpósio Brasileiro de Telecomunicações*, pp. 1-5, Juiz de Fora, MG, Brazil, Dec. 2014.
- [7] F. M. Laburú, F. D. A. García, F. R. A. Parente, J. S. Assine, E. Alves do Valle Júnior, and J. C. Silveira Santos Filho, "Aprendendo desvanecimento a partir de dados", in *Proc. Prêmio Mercosul Ciência e Tecnologia 2020*, under review, 2020.
- [8] G. R. de Lima Tejerina, A. C. F. Rodriguez, F. D. A. García, G. Fraidenaich, J. C. S. Santos Filho, M. D. Yacoub, M. A. M. Miranda, A. Bertetich and K. A. Camara de Macedo, "Modelo de multipercurso para sistemas de radar em perfis topográficos reais", in *Proc. XXXIV Simpósio Brasileiro de Telecomunicações*, pp. 1-5, Santarém, PA, Brazil, Sept. 2016.

Reviewer

- IEEE Transactions on Aerospace And Electronic Systems (TAES)
- IEEE Geoscience and Remote Sensing Letters (GRSL)
- IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS)
- IEEE Global Communications Conference (GLOBECOM)
- IEEE Vehicular Technology Conference (VTC)
- International Conference on Advances in Emerging Trends and Technologies (ICAETT)
- Simpósio Brasileiro de Telecomunicações e Processamento de Sinais (SBRT)
- Simpósio Brasileiro de Telecomunicações e Processamento de Sinais (SBRT)
- Multidisciplinary International Conference of Research Applied to Defense and Security (MICRADS)