Adín Ramírez Rivera
Curriculum Vitæ

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Google Scholar

Education

Degrees

Kyung Hee Univeristy — South Korea
Ph.D. in Computer Engineering. 2009–2013

Universidad de San Carlos de Guatemala — Guatemala
B.Eng. in Computer and Systems Engineering. 2004–2009

Others

University of Campinas — Brazil
Course on Planning Teaching Conditions. 2016

Universidad Diego Portales — Chile
University Education Diploma. 2015

Vicerrectoria de Pregrado, Universidad Diego Portales — Chile
Workshop on Strategies for the Development of an Effective Class. 2015

Vicerrectoria de Pregrado, Universidad Diego Portales — Chile
Workshop on Learning Evaluation. 2014

Vicerrectoria de Pregrado, Universidad Diego Portales — Chile
Workshop on Syllabus Design. 2014

Vicerrectoria de Pregrado, Universidad Diego Portales — Chile
Workshop on Learning Evaluation through Rubrics. 2014

Tata Consultancy Services and IT Education Centre of Excellence, Universidad de San Carlos de Guatemala — Guatemala
Technical Trainer. 2008

Tata Consultancy Services and IT Education Centre of Excellence, Universidad de San Carlos de Guatemala — Guatemala
Java Technology. 2008

Tata Consultancy Services and IT Education Centre of Excellence, Universidad de San Carlos de Guatemala — Guatemala
Exploring DBA using Oracle. 2007–2008

Tata Consultancy Services and IT Education Centre of Excellence, Universidad de San Carlos de Guatemala — Guatemala
Software Architect. 2007–2008

Employment History

Academic

Department of Informatics, University of Oslo — Norway
Associate Professor. — 2022–pres.

Department of Computer Science, Reykjavik University — Iceland
Assistant Professor. — 2021

Institute of Computing, Universidade Estadual de Campinas — Brazil
Assistant Professor. — 2016–2021

Escuela de Informática y Telecomunicaciones, Universidad Diego Portales — Chile
Assistant Professor. — 2013–2016

Image Processing Lab, Kyung Hee University — South Korea
Researcher. — 2009–2013

IT Education Centre of Excellence, Universidad de San Carlos de Guatemala — Guatemala
Instructor. — 05–06 2008

Universidad de San Carlos de Guatemala — Guatemala
Teaching Assistant. — 05–06 2008

Academic Management

Institute of Computing, Universidade Estadual de Campinas — Brazil
Information Systems Department's Head. — 2020–2021

Escuela de Informática y Telecomunicaciones, Universidad Diego Portales — Chile
Master Degree Coordinator. — 2015–2016

Escuela de Informática y Telecomunicaciones, Universidad Diego Portales — Chile
Internship Coordinator. — 2013–2014

IT Education Centre of Excellence, Universidad de San Carlos de Guatemala — Guatemala
Manager. — 07–12 2008

Industry

ACS, a Xerox Company — Guatemala
Specialist in Software Development. — 02–08 2009

Teaching Experience

Courses Taught

Institute of Computing, University of Campinas
Operating Systems. — 2018, 2020

Institute of Computing, University of Campinas
Project on Information Systems. — 2017, 2019, 2021

Department of Computer Science, Reykjavik University
Introduction to Computer Vision. — 2021

Institute of Computing, University of Campinas
Probabilistic Machine Learning. — 2020

Institute of Computing, University of Campinas
Unsupervised Machine Learning. — 2020

Institute of Computing, University of Campinas
Introduction to Computer Vision. 2017–2020

Institute of Computing, University of Campinas
Project on Compilers. 2018–2019

Institute of Computing, University of Campinas
Algorithms and Computer Programming. 2017

Universidad Diego Portales
Artificial Intelligence. 2015–2016

Universidad Diego Portales
Operating Systems. 2015–2016

Universidad Diego Portales
Computer Vision. 2015

Universidad Diego Portales
Advanced Programming. 2014

Universidad Diego Portales
Pattern Recognition. 2014

Universidad Diego Portales
Programming. 2013–2014

Universidad Diego Portales
ICT Projects 1. 2013–2014

IT Education Centre of Excellence, Universidad de San Carlos de Guatemala
Advanced Programming in Java. 2008

IT Education Centre of Excellence, Universidad de San Carlos de Guatemala
Basic Programming in Java. 2008

Universidad de San Carlos de Guatemala
Laboratory of Compilers 2. 2007–2008

Supervised Theses

University of Campinas
D. Barreto. “Hierarchical Variational Visual Attention.” Degree: Master. 2021

University of Campinas
O. Basso Gomes. “Deep Convolutional Features for Sparse and Dense Registration in RGB-D SLAM.” Degree: Master. 2021

University of Campinas
J. Arias Figueroa. “Deep Generative Models for Clustering: A Semi-supervised and Unsupervised Approach.” Degree: Master. 2018

University of Campinas
D. Saire. “Multi-scale Morphological Image Simplification Based on Extremum Relationships.” Degree: Master. (Co-advised with Dr. Neucimar Leite) 2017

Universidad Diego Portales
C. Sanhueza. “Reconocimiento de expresiones faciales en vídeos de ambiente natural mediante redes neuronales convolucionales y recurrentes.” Degree: Master. (Co-advised with Dra. Beatriz Marin) 2017

Universidad Diego Portales
R. Quezada. "Reconocimiento de expresiones faciales a través de redes neuronales convolucionales." Degree: Undergraduate. 2016

Universidad Diego Portales
F. Troncoso. "Aplicación móvil con sistema de recomendación de ítems de antropología para el Museo Nacional de Historia Natural." Degree: Undergraduate. (Co-advised with Dr. Javier Pereira) 2016

Universidad Diego Portales
C. Valderrama. "Complemento de recomendación de código para apoyar la instanciación de frameworks." Degree: Undergraduate. (Co-advised with Dr. David Röthlisberger) 2015

Universidad Diego Portales
F. Bustos. "Propuesta de descriptor híbrido (Geométrico y de Aparencia) para la clasificación de expresiones como patrones temporales." Degree: Undergraduate. 2014

Universidad Diego Portales
R. Fuenzalida. "Propuesta de descriptor basado en partes para el reconocimiento de expresiones y objetos en secuencias de imágenes." Degree: Undergraduate. 2014

Universidad Diego Portales
M. Rodríguez. "Reconocimiento de expresiones faciales en imágenes dinámicas utilizando un descriptor basado en rayos de flujo." Degree: Undergraduate. 2014

Funding

Grants

G1. **Principal Investigator**. "Learning Representations through Deep Generative Models on Video." *São Paulo Research Foundation (FAPESP)* No. 2019/07257-3 (time frame: 2 years). Sept. 2020.

G2. **Principal Investigator**. "Methodologies for Video Analysis based on Neural Networks." *Productivity Researcher (level 2), National Council for Scientific and Technological Development (CNPq)* No. 307425/2017-7 (time frame: 3 years). Mar. 2018.

G3. **Principal Investigator**. "Development of Recurrent Convolutional Neural Network Architectures for Facial Expression Recognition." *São Paulo Research Foundation (FAPESP)* No. 2016/19947-6 (time frame: 2 years). Jan. 2017.

G4. **Principal Investigator**. "Auxílio Início de Carreira (Docente)." *FAEPEX, UNICAMP* No. 3237/16 (time frame: 1 year). Sept. 2016.

G5. **Alternating Investigator**. "RACCONTO: Recomendación y perfilamiento de piezas de museo basados en sensibilidad al contexto de usuario y ontologías culturales." *FONDEF* No. ID14I10017 (time frame: 2 years). Nov. 2014.

G6. **Principal Investigator**. "Design and Implementation of Spatiotemporal Local Directional Patterns for Facial Expression Recognition." *FONDECYT de Iniciación Investigación* No. 11130098 (time frame: 3 years). Oct. 2013.

Other Funding

O1. **Principal Investigator**. "Visual Question Answering task with Graph Convolution Networks." *MSc Scholarship, São Paulo Research Foundation (FAPESP)* No. 2020/14452-4 (time frame: 2 years). Apr. 2021.

O2. **Principal Investigator**. "Travel Grant ICML." *São Paulo Research Foundation (FAPESP)* No. 2019/11029-6. June 2019.

O3. **Principal Investigator**. "An Attentional Model for Videos Classification." *MSc Scholarship, São Paulo Research Foundation (FAPESP)* No. 2018/10027-7 (time frame: 2 years). Dec. 2018.

O4. **Principal Investigator**. "Video-to-Video Dynamics Transfer with Deep Generative Models." *PhD Scholarship, São Paulo Research Foundation (FAPESP)* No. 2017/16144-2 (time frame: 3 years). Aug. 2018.

O5. "NVIDIA GPU Grant." *NVIDIA Corporation*. May 2018.

O6. **Principal Investigator**. "Semantic Segmentation on Videos." *PhD Scholarship, São Paulo Research Foundation (FAPESP)* No. 2017/16597-7 (time frame: 3 years). Nov. 2017.

O7. "NVIDIA GPU Grant." *NVIDIA Corporation*. Apr. 2017.

O8. "Visiting Expert Grant (Concurso Traída Expertos)." *Facultad de Ingeniería, Universidad Diego Portales*. Aug. 2015.

O9. "Travel Support Grant 2015 (Concurso Apoyo a Viajes 2015)." *Facultad de Ingeniería, Universidad Diego Portales*. Apr. 2015.

O10. "Travel Support Grant 2014 (Concurso Apoyo a Viajes 2014)." *Facultad de Ingeniería, Universidad Diego Portales*. Aug. 2014.

O11. "Travel Support Grant 2014 (Concurso Apoyo a Viajes 2014)." *Vicerrectoria, Universidad Diego Portales* No. 370/2014. Aug. 2014.

O12. "Research Assistant Grant (Fondo Ayudante de Investigación)." *Facultad de Ingeniería, Universidad Diego Portales*. July 2014.

Publications

Journals

J1. M. Rodríguez Santander, J. Hernández Albarracín, and **A. Ramírez Rivera**. "On the Pitfalls of Learning with Limited Data: A Facial Expression Recognition Case Study." In: *Experts Systems with Applications* (2021). DOI: 10.1016/j.eswa.2021.114991.

J2. D. Saire and **A. Ramírez Rivera**. "Empirical Study of Multi-Task Hourglass Model for Semantic Segmentation Task." In: *IEEE Access* 9 (2021), pp. 80654–80670. DOI: 10.1109/ACCESS.2021.3085218.

J3. M. T. B. Iqbal, B. Ryu, **A. Ramírez Rivera**, F. Makhmudkhujaev, O. Chae, and S. H. Bae. "Facial Expression Recognition with Active Local Shape Pattern and Learned-Size Block Representations." In: *IEEE Transactions on Affective Computing* (2020). DOI: 10.1109/TAFFC.2020.2995432.

J4. **A. Ramírez Rivera**, A. Khan, I. Bekkouch, and T. Sheikh. "Anomaly Detection based on Zero-Shot Outlier Synthesis and Hierarchical Feature Distillation." In: *IEEE Transactions on Neural Networks and Learning Systems* (2020). DOI: 10.1109/TNNLS.2020.3027667.

J5. R. Quispe, D. Ttito, **A. Ramírez Rivera**, and H. Pedrini. "Multi-Stream Networks and Ground-Truth Generation for Crowd Counting." In: *International Journal of Electrical and Computer Engineering Systems* 11 (2020), pp. 25–33. ISSN: 1847-6996.

J6. B. Ryu, **A. Ramírez Rivera**, J. Kim, and O. Chae. "Local Directional Ternary Pattern for Facial Expression Recognition." In: *IEEE Transactions on Image Processing* 26 (2017), pp. 6006–6018. ISSN: 1057-7149. DOI: 10.1109/TIP.2017.2726010.

J7. **A. Ramírez Rivera**, J. Rojas Castillo, and O. Chae. "Local Directional Texture Pattern Image Descriptor." In: *Pattern Recognition Letters* 51 (2015), pp. 94–100. ISSN: 0167-8655. DOI: 10.1016/j.patrec.2014.08.012. URL: http://www.sciencedirect.com/science/article/pii/S0167865514002724.

J8. **A. Ramírez Rivera** and O. Chae. "Spatiotemporal Directional Number Transitional Graph for Dynamic Texture Recognition." In: *IEEE Transactions on Pattern Analysis and Machine Intelligence* 37 (2015), pp. 2146–2152. ISSN: 0162-8828. DOI: 10.1109/TPAMI.2015.2392774.

J9. **A. Ramírez Rivera**, J. Rojas Castillo, and O. Chae. "Local Directional Number Pattern for Face Analysis: Face and Expression Recognition." In: *IEEE Transactions on Image Processing* 22 (2013), pp. 1740–1752. ISSN: 1057-7149. DOI: 10.1109/TIP.2012.2235848.

J10. **A. Ramírez Rivera**, M. Murshed, J. Kim, and O. Chae. "Background Modeling Through Statistical Edge-Segment Distributions." In: *IEEE Transactions on Circuits and Systems for Video Technology* 23 (Aug. 2013), pp. 1375–1387. ISSN: 1051-8215. DOI: 10.1109/TCSVT.2013.2242551.

J11. J. Kim, M. Murshed, **A. Ramírez Rivera**, and O. Chae. "Background Modelling Using Edge-Segment Distributions." In: *International Journal of Advanced Robotic Systems* (Feb. 2013). DOI: 10.5772/54185.

J12. J. Rojas Castillo, **A. Ramírez Rivera**, and O. Chae. "Robust Facial Recognition Based on Local Gaussian Structural Pattern." In: *International Journal of Innovative Computing, Information and Control* 8 (Dec. 2012), pp. 8399–8413.

J13. **A. Ramírez Rivera**, B. Ryu, and O. Chae. "Content-Aware Dark Image Enhancement through Channel Division." In: *IEEE Transactions on Image Processing* 21 (Sept. 2012), pp. 3967–3980. DOI: 10.1109/TIP.2012.2198667.

J14. M. Murshed, **A. Ramírez Rivera**, J. Kim, and O. Chae. "Statistical Binary Edge Frequency Accumulation Model for Moving Object Detection." In: *International Journal of Innovative Computing, Information and Control* 8 (July 2012), pp. 4943–4957.

J15. M. Murshed, **A. Ramírez Rivera**, and O. Chae. "Moving Edge Segment Matching for the Detection of Moving Object." In: *Lecture Notes in Computer Science* 6753 (June 2011), pp. 274–283.

Conferences

C1. T. Silva and **A. Ramírez Rivera**. "Representation Learning via Consistent Assignment of Views to Clusters." In: *ACM/SIGAPP Symposium on Applied Computing (SAC)*. 2022. DOI: 10.1145/3477314.3507267.

C2. A. Khusainova, A. Khan, **A. Ramírez Rivera**, and V. Romanov. "Hierarchical Transformer for Multilingual Machine Translation." In: *VarDial—Workshop on NLP for Similar Languages, Varieties and Dialects*. 2021.

C3. T. Silva and **A. Ramírez Rivera**. "Consistent Assignment for Representation Learning." In: *Energy-based Models Workshop (ICLRW)*. 2021.

C4. G. Nikolentzos, M. Thomas, **A. Ramírez Rivera**, and M. Vazirgiannis. “Image Classification using Graph-based Representations and Graph Neural Networks.” In: *International Conference Complex Networks and their Applications*. Dec. 2020.

C5. M. V. S. Silva, L. Bittencourt, and **A. Ramírez Rivera**. “Towards Federated Learning in Edge Computing for Real-Time Traffic Estimation in Smart Cities.” In: *Workshop of Urban Computation (CoUrb)*. Dec. 2020.

C6. B. Kim, **A. Ramírez Rivera**, O. Chae, and J. Kim. “Background Modeling through Spatiotemporal Edge Feature and Color.” In: *International Symposium on Visual Computing (ISVC)*. Oct. 2019.

C7. S. Robles, J. Gómez, **A. Ramírez Rivera**, J. González, N. Padilla, and D. Dujovne. “A Halo Merger Tree Generation and Evaluation Framework.” In: *Workshop on Theoretical Physics for Deep Learning (ICMLW)*. June 2019.

C8. D. Saire and **A. Ramírez Rivera**. “Graph Learning Network: A Structure Learning Algorithm.” In: *Workshop on Learning and Reasoning with Graph-Structured Data (ICMLW)*. June 2019.

C9. D. Ttito, R. Quispe, **A. Ramírez Rivera**, and H. Pedrini. “Where are the People? A Multi-Stream Convolutional Neural Network for Crowd Counting via Density Map from Complex Images.” In: *International Conference on Systems, Signals and Image Processing (IWSSIP)*. June 2019.

C10. A. Khusainova, A. Khan, and **A. Ramírez Rivera**. “SART—Similarity, Analogies, and Relatedness for Tatar Language: New Benchmark Datasets for Word Embeddings Evaluation.” In: *International Conference on Computational Linguistics and Intelligent Text Processing (CICLing)*. Apr. 2019.

C11. P. Zhdanov, A. Khan, **A. Ramírez Rivera**, and A. Khattak. “Improving Human Action Recognition through Hierarchical Neural Network Classifiers.” In: *International Joint Conference on Neural Networks (IJCNN)*. July 2018.

C12. J. Arias Figueroa and **A. Ramírez Rivera**. “Is Simple Better?: Revisiting Simple Generative Models for Unsupervised Clustering.” In: *Second workshop on Bayesian Deep Learning (NIPS 2017)*. Dec. 2017.

C13. J. Arias Figueroa and **A. Ramírez Rivera**. “Learning to Cluster with Auxiliary Tasks: A Semi-Supervised Approach.” In: *31th SIBGRAPI Conference on Graphics, Patterns and Images, SIBGRAPI 2017*. Oct. 2017, pp. 1–8.

C14. A. Dobrenkii, R. Kuleev, A. Khan, **A. Ramírez Rivera**, and A. Khattak. “Large Residual Multiple View 3D CNN for False Positive Reduction in Pulmonary Nodule Detection.” In: *Computational Intelligence in Bioinformatics and Computational Biology (CIBCB), IEEE International Conference on*. IEEE, Aug. 2017.

C15. M. Gusarev, R. Kuleev, A. Khan, **A. Ramírez Rivera**, and A. Khattak. “Deep Learning Models for Bone Suppression in Chest Radiographs.” In: *Computational Intelligence in Bioinformatics and Computational Biology (CIBCB), IEEE International Conference on*. IEEE, Aug. 2017.

C16. J. Kim, **A. Ramírez Rivera**, B. Kim, K. Roy, and O. Chae. “Background Modeling using Adaptive Properties of Hybrid Features.” In: *Advanced Video and Signal-Based Surveillance (AVSS), IEEE International Conference on*. IEEE, Aug. 2017.

C17. S. Hong, J. Kim, **A. Ramírez Rivera**, G. Song, and O. Chae. "Edge Shape Pattern for Background Modeling based on Hybrid Local Codes." In: *Advanced Video and Signal-Based Surveillance (AVSS), IEEE International Conference on*. Aug. 2016.

C18. J. Kim, **A. Ramírez Rivera**, B. Ryu, and O. Chae. "Simultaneous foreground detection and classification with hybrid features." In: *Computer Vision (ICCV), IEEE International Conference on*. 2015, pp. 3307–3315.

C19. J. Kim, **A. Ramírez Rivera**, B. Ryu, K. Ahn, and O. Chae. "Unattended object detection based on edge-segment distributions." In: *Advanced Video and Signal Based Surveillance (AVSS), IEEE International Conference on*. Aug. 2014, pp. 283–288. DOI: 10.1109/AVSS.2014.6918682.

C20. J. Kim, **A. Ramírez Rivera**, G. Song, B. Ryu, and O. Chae. "Edge-segment-based Background Modeling: Non-parametric online background update." In: *Advanced Video and Signal Based Surveillance (AVSS), IEEE International Conference on*. Aug. 2013, pp. 214–219. DOI: 10.1109/AVSS.2013.6636642.

C21. **A. Ramírez Rivera**, J. Rojas Castillo, and O. Chae. "Local Gaussian Directional Pattern for Face Recognition." In: *International Conference on Pattern Recognition (ICPR)*. Nov. 2012, pp. 1000–1003.

C22. **A. Ramírez Rivera**, J. Rojas Castillo, and O. Chae. "Recognition of Face Expressions Using Local Principal Texture Pattern." In: *International Conference on Image Processing (ICIP)*. Oct. 2012, pp. 2609–2612.

C23. J. Rojas Castillo, **A. Ramírez Rivera**, and O. Chae. "Facial Expression Recognition Based on Local Sign Directional Pattern." In: *International Conference on Image Processing (ICIP)*. Oct. 2012, pp. 2613–2616.

C24. J. Kim, **A. Ramírez Rivera**, M. Park, and O. Chae. "Scene Modeling using Edge Segment Distributions." In: *International Conference on Image Processing, Computer Vision, and Pattern Recognition (IPCV)*. July 2012.

C25. **A. Ramírez Rivera**, M. Murshed, and O. Chae. "Object Detection through Edge Behavior Modeling." In: *Advanced Video and Signal-Based Surveillance (AVSS), IEEE International Conference on*. Aug. 2011, pp. 273–278.

C26. M. Murshed, **A. Ramírez Rivera**, and O. Chae. "Statistical Background Modeling: An Edge Segment based Moving Object Detection Approach." In: *Advanced Video and Signal Based Surveillance (AVSS), IEEE International Conference on*. Aug. 2010, pp. 300–306.

Other Appointments

Memberships

IEEE Senior Member.	2021–pres.
IEEE Member.	2012–2021
Member of the International Network of Science, Technology, and Innovation of Guatemala.	2017–pres.
Computer Vision Foundation Member.	2015–pres.

International Reviewer

List of journals and venues: https://publons.com/researcher/1219499/adin-ramirez-rivera/peer-review/. Publons

Languages

Spanish: Advanced *Native language*

English: Advanced *Speaking, reading, and writing*

Portuguese: Intermediate *Speaking, reading, and writing*

Korean: Basic *Speaking, reading, and writing*