Antonios Somarakis

Date/Place of Birth	11 November, 1992 / Heraklion, Greece
Address:	Hugo de Grootstraat 22, 2613 TV Delft, The Netherlands
Phone:	+30 6978759118
Mail:	antonis.som@gmail.com

Education

1/2022	Ph.D. in Visual Analytics
	Leiden University Medical Center, The Netherlands
	Visual Analytics for spatial single-cell omics data
	Advisor: Thomas Höllt, Boudewijn Lelieveldt
02/2016	Diploma in Electrical and Computer Engineering (M.Sc. equivalent)
	National Technical University of Athens, Greece
	Low-overhead compression of ECG recordings for Implantable Medical Devices.
	Advisors: Dimitrios Soudris

Professional Profile

02/2021–today	Postdoctoral Fellow, LKEB, Leiden University Medical Center, The Netherlands
	Graph Analysis of spatial omics data
02/2017–02/2021	Ph.D. Student, LKEB, Leiden University Medical Center, The Netherlands
	Visual Analysis of spatial single-cell omics data
10/2014–05/2015	Trainee (Software Development), Nokia, Athens, Greece
	Python development for Test Automation, experience in Scrum-Agile

Guest Research Stays

03–07/2016	National Technical University of Athens, Biosim Lab, Athens, Greece
	Feature extraction from B-Mode Ultrasound using first and second order statistics.
07–08/2015	Universidad Politécnica de Madrid, BIT Lab, Madrid, Spain
	Registration of the Left-ventricle CT Images using deformable models.

Professional Activities

Teaching Experience

2019-2022	Student Supervision (Research Project, Msc Thesis)
	Leiden University Medical Center, The Netherlands
2019, 2020	Teaching Assistant, Introduction in Image Processing
	Clinical Technology, TU Delft, Leiden University Medical Center, The Netherlands

Invited Talks

10/2019	ImaCytE: Visual Exploration of Imaging Mass Cytometry Data.
	3rd Annual Imaging Mass Cytometry User Group, Zurich, Switzerland.
7/2017	Visual exploration on spatial resolved *omics* data.
	Data Science Research Programme Symposium, Leiden, the Netherlands.

Conference Talks

10/2020	Visual cohort comparison for spatial single-cell omics-data, IEEE Vis.
6/2020	ImaCytE: Visual Exploration of Imaging Mass Cytometry Data, ISMB/BioVis
6/2020	ImaCytE: Visual Exploration of Imaging Mass Cytometry Data, IEEE Pacific Visualization

Awards

Dirk Bartz Award for Visual Computing in Medicine 2021	Third Prize
Karl Heinz Höhne Award for Medical Visualization 2021	Second Prize

Skills

Languages	Greek (native), English (fluent), German (Basic, B2)
Programming	Matlab (Excellent), Python / Deep Learning libraries (Fully working), R, JavaScript, C (Basic), Git
Media	Adobe Illustrator, Adobe Premiere Pro, LaTeX
Systems	Windows, Linux

Outreach Activities

11/2019	Hackathon for Good, The Hague: Translators Without Borders challenge
7/2019	Panel Organizer, Uniting Global and Hyper-Local Data for Land, LANDac
6/2019	Panel Organizer, Digital cooperation in action - A collaborative case study, EuroDig
11/2018	Hackathon for Good, The Hague: Asser Land-grabbing challenge
2016-2018	TU Delft Ambassador: Responsible for Europe region external affairs
2012-2016	Voluntary tutoring to High school students in need: Geometry, Algebra
2011- 2014	JobFair Athens: Logistics Coordinator and member of its Organizing Committee, Human resources, Foundraising teams responsible
2012- 2013	EESTEC international events: "World Beyond Tommorow" in Belgrade, "From Giga to NanoWatts" in Munich

Publications

A. Somarakis, M. E. Ijsselsteijn, B. Kenkhuis, V. v. Unen, S. J. Luk, F. Koning, L. v. d. Weerd, N. F. C. C. d. Miranda, B. P. F. Lelieveldt, and T. Höllt, "Visual Analysis of Tissue Images at Cellular Level," in *EuroVis 2021 - Dirk Bartz Prize*, The Eurographics Association, 2021. doi: 10.2312/evm.20211074

M. E. Ijsselsteijn*, **A. Somarakis***, B. Lelieveldt, T. Höllt+, and N. F. de Miranda+, "Semi-automated background removal limits data loss and normalizes imaging mass cytometry data," *Cytometry Part A*, 2021. doi: 10.1002/cyto.a.24480

B. Kenkhuis*, **A. Somarakis***, L. de Haan, O. Dzyubachyk, M. E. IJsselsteijn, N. F. de Miranda, B. P. Lelieveldt, J. Dijkstra, W. M. van Roon-Mom, T. Höllt, and L. van der Weerd, "Iron loading is a prominent feature of activated microglia in alzheimer's disease patients," *Acta neuropathologica communications*, vol. 9, no. 1, pp. 1–15, 2021. doi: 10.1186/s40478-021-01126-5

A. Somarakis, M. E. Ijsselsteijn, S. J. Luk, B. Kenkhuis, N. F. C. C. de Miranda, B. P. F. Lelieveldt, and T. Höllt, "Visual cohort comparison for spatial single-cell omics-data," *IEEE Transactions on Visualization and Computer Graphics*, vol. 27, no. 2, pp. 733–743, 2021. doi: 10.1109/tvcg.2020.3030336

A. Somarakis, V. V. Unen, F. Koning, B. P. Lelieveldt, and T. Höllt, "ImaCytE: visual exploration of cellular microenvironments for imaging mass cytometry data," *IEEE Transactions on Visualization and Computer Graphics*, vol. 27, no. 1, pp. 98–110, 2021. doi: 10.1109/tvcg.2019.2931299

B. Kenkhuis, **A. Somarakis**, L. R. Kleindouwel, W. M. van Roon-Mom, T. Höllt, and L. van der Weerd, "Co-expression patterns of microglia markers iba1, tmem119 and p2ry12 in alzheimer's disease," *Neurobiology of Disease*, vol. 167, p. 105684, 2022

D. Lähnemann, J. Köster, E. Szczurek, D. J. McCarthy, S. C. Hicks, M. D. Robinson, C. A. Vallejos, K. R. Campbell, N. Beerenwinkel, A. Mahfouz, L. Pinello, P. Skums, A. Stamatakis, C. S. O. Attolini, S. Aparicio, J. Baaijens, M. Balvert, B. de Barbanson, A. Cappuccio, G. Corleone, B. E. Dutilh, M. Florescu, V. Guryev, R. Holmer, K. Jahn, T. J. Lobo, E. M. Keizer, I. Khatri, S. M. Kielbasa, J. O. Korbel, A. M. Kozlov, T. H. Kuo, B. P. Lelieveldt, I. I. Mandoiu, J. C. Marioni, T. Marschall, F. Mölder, A. Niknejad, L. Raczkowski, M. Reinders, J. de Ridder, A. E. Saliba, **A. Somarakis**, O. Stegle, F. J. Theis, H. Yang, A. Zelikovsky, A. C. McHardy, B. J. Raphael, S. P. Shah, and A. Schönhuth, "Eleven grand challenges in single-cell data science," *Genome Biology*, vol. 21, 2020. doi: 10.1186/s13059-020-1926-6

N. Li, V. van Unen, N. Guo, T. Abdelaal, **A. Somarakis**, J. Eggermont, A. Mahfouz, S. M. C. de Sousa Lopes, B. P. Lelieveldt, and F. Koning, "Early-life compartmentalization of immune cells in human fetal tissues revealed by high-dimensional mass cytometry," *Frontiers in Immunology*, vol. 10, 2019. doi: 10.3389/fimmu.2019.01932

---

*,+ Contributed equally