Melanie Sclar

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Summary

Computer Scientist, Latin American champion in the 39th ACM-ICPC World Finals, Mathematics olympiad champion and former Facebook intern. Experienced in problem solving and complex algorithms and looking forward to expanding my knowledge and improving my skills in the field.

Work Experience

Software Engineer Intern at Facebook Inc.   January – April 2016

Worked in the Video Encoding Team, on video stabilization algorithms. Researched various methods to understand when stabilization is necessary or not and saving computing time when it is not needed.

Uniformed the formats of all videos on the site, which varied along the company's development. This heterogeneity of formats used to have various unwanted consequences on the system, which I fixed during the internship.

Software Engineer Intern at Facebook Inc.   January – April 2015

Worked in the Public Content Ranking Team, developing algorithms to improve the quality of recommendations on videos and articles shown in newsfeed. These algorithms were based on sentiment analysis and trending topic detection.

Teacher Assistant at University of Buenos Aires   March 2014 – July 2017

Responsible for assisting students with their inquiries (involving class projects and exercises) and grading exams and projects. Taught mainly in Algorithms and Data Structures III.

Coach for Mathematics Olympiads   March 2012 – October 2016

Argentine Model School (2013-2016), Martin Buber School (2013), Carlos Pellegrini School (2012)
Helped students acquire problem solving techniques and mathematical concepts necessary in Mathematics Olympiads, and stimulated them to continue researching and solving problems on their own.

Honors and Awards

International Awards

Latin American Champion and First to Solve Problem F award in the 39th Annual World Finals of the ACM International Collegiate Programming Contest (ACM-ICPC) in Marrakech, Morocco (2015).

Champion in the South America/South Regional Contest of the ACM-ICPC (2013 and 2014).

Third place in the South America/South Regional Contest for the ACM-ICPC (2012).

Bronze Medal in the 26th Iberoamerican Mathematical Olympiad (2011) in San Jose, Costa Rica.

Silver Medal in the 21st Southamerican Mathematical Olympiad (2010) in São Paulo, Brazil.

National Awards in Argentina

First, third and second place in Argentine Programming Tournament (TAP) (2014, 2013 and 2012 respectively).

Second place in the Interuniversity Argentine Mathematics Competition (CIMA) (2016).

National Champion in Argentine Olympiad in Mathematics (OMA) (2011).

National Subchampion in Argentine Olympiad in Mathematics (OMA) (2008).

Patents

Sclar M, Puntambekar A, Coward MH, Parsons-Keir, WD, inventors; Facebook Inc, assignee. (1) Foreground detection for video stabilization and (2) A neural network to optimize video stabilization parameters. Attorney Docket Numbers 060406-8393.US00 and 060406-8394.US01, filed on June 30, 2016. Patent pending.

Volunteer experience

Organizer and teacher of programming competitions' training events July 2014 – ongoing
>   Taught in four two-week long events aimed at university students that want to improve their skills in competitive programming, as well as several events aimed at high school students.

Organizer of programming and mathematical competitions July 2012 – ongoing

Education

University of Buenos Aires 2012–2017
>   Licenciada en Ciencias de la Computación,
>   equivalent to Bachelor of Computer Science +MSc. G.P.A. 9.65/10
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>   **Dissertation:** "Analysis and Prediction of Human Visual Search". This project consisted of creating an algorithm involving machine learning and bayesian modelling to predict the most likely paths that human gaze will make when searching for an object in an image.

University of Buenos Aires 2012–ongoing
>   Currently pursuing Licenciatura en Ciencias Matemáticas,
>   equivalent to Bachelor of Mathematics +MSc. G.P.A. 9.00/10

Superior School in Commerce "Carlos Pellegrini" – University of Buenos Aires 2007–2011
>   High School Degree with Accounting Specialization. G.P.A. 9.02/10

Skills

Algorithms	Experienced due to my participation in informatics olympiads.
Problem Solving	Passionate and highly experienced due to my participation in mathematical and computing olympiads.
Machine Learning	Solid knowledge of the classic supervised and unsupervised models and with experience applying supervised models in structured data and images.

Programming Languages

C / C++	Advanced knowledge, 7 years experience
PHP / Hack	Intermediate knowledge, 2 years experience
Python	Intermediate knowledge, 2 years experience
Haskell	Basic knowledge, 2 years experience

Spoken Languages

Spanish	Native Proficiency.
English	Fluent Proficiency, able to use it professionally.
Portuguese	Fluent Proficiency, able to use it professionally.
French	Intermediate Proficiency, able to hold an informal conversation.