

# Andrés Ignacio Cristi Espinosa

## PhD. Student in Engineering Systems

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### Research Interests

Operations Research, Algorithmic Game Theory, Mechanism Design, Stochastic Processes, Optimization Algorithms, Randomized Algorithms.

### Education

<b>Universidad de Chile</b> <i>PhD. Student in Engineering Systems</i>	<b>Santiago, Chile</b> 2018–Present
<b>Universidad de Chile</b> <i>M.Sc. Operations Management</i> Thesis Title: <i>Estabilidad y Aleatoriedad en Admisión Escolar</i> Advisor: Prof. José Rafael Correa (Department of Industrial Engineering)	<b>Santiago, Chile</b> 2016–2018
<b>Universidad de Chile</b> <i>B.Sc. Engineering Mathematics</i>	<b>Santiago, Chile</b> 2011–2016

### Experience

#### Research.....

<b>Max Planck Institut for Informatics</b> <i>Research Internship</i> , visiting Antonios Antoniadis Funded by MPII-UChile Collaborative Grant CONICYT: Fast Approximation Algo. for Massive Data Sets.	<b>Saarbrücken, Germany</b> May–Jul 2017
<b>Center for Mathematical Modeling, FCFM Universidad de Chile</b> <i>Research Assistant</i> , under supervision of Francisco Förster In the Astrominformatics Lab. on problem 'Multiobjective Optimization for Scheduling of the LSST'.	<b>Santiago, Chile</b> Spring 2015

#### Teaching Assistance.....

<b>Department of Industrial Engineering - Universidad de Chile</b> <i>Stochastic Models for Engineering Systems</i> , with Prof. José Rafael Correa	Spring 2017
<b>Department of Mathematical Engineering - Universidad de Chile</b> <i>Linear Algebra</i> , with Prof. Jaime Ortega <i>Stochastic Simulation</i> , with Prof. Joaquín Fontbona <i>Markov Processes</i> , with Prof. Servet Martínez <i>Statistics</i> , with Prof. Raúl Gouet <i>Probability and Statistics</i> , with Prof. Servet Martínez <i>Introduction to Calculus</i> , with Prof. Jorge San Martín and Raúl Gormaz	Spring 2016 Spring 2015 2015–2016 2014–2015 Spring 2014 2013–2016

#### Professional Internships.....

<b>Navigo Mining SpA.</b> Reviewing and programming M.L. algorithms for prediction in the Mining Industry.	<b>Santiago, Chile</b> Jan–Feb 2016
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<b>Open Mine Planning Technologies Lab., Universidad Adolfo Ibáñez</b>	<b>Santiago, Chile</b>
Reviewing and assisting the development of algorithms for open pit mine planning.	<i>Jan 2015</i>
<b>Antofagasta Minerals S.A.</b>	<b>Santiago, Chile</b>
Developing a predictive model of the seismic vulnerability of a mineral processing plant.	<i>Jan 2014</i>

## Leadership

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<b>Universidad de Chile Student Federation</b>	
<i>Graduate Students Delegate</i>	<i>2017</i>
<i>Student Federation Council Member</i>	<i>2015</i>
<b>Mathematical Engineering Student Union - Universidad de Chile</b>	
<i>President</i>	<i>2016</i>
<i>Department Representative</i>	<i>2013–2014</i>
<i>Course Representative</i>	<i>2011</i>

## Proficiencies

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**Languages:** Native Spanish speaker, fluent in English.

**Computer:** MS Windows, Linux, Mac OS | MS Office, Libre Office,  $\text{\LaTeX}$  | Python, Matlab, Scilab, R, AMPL (CPLEX), git.

## Scholarships and Awards

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CONICYT (national agency for science and technology) PhD. Grant	<i>2018</i>
CONICYT Scholarship for M.Sc. Students	<i>2017</i>
Outstanding Student	<i>2011, 2012, 2014, 2015</i>
‘Andrés Bello’ Scholarship for Academic Excellence	<i>2011–2016</i>
Bronze Medal, XV Ibero-American Physics Olympiad, Panama	<i>2010</i>
Gold Medal, Chilean Physics Olympiad	<i>2010</i>

## Attended Conferences, Workshops and Summer Schools

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<b>Discrete Mathematics Summer School</b>	<b>Valparaíso, Chile</b>
<i>XIII version. Attendant and T.A. of the course of Prof. Kurt Mehlhorn.</i>	<i>Jan 2018</i>
<i>XII version.</i>	<i>Jan 2017</i>
<b>Highlights of Algorithms</b>	<b>Berlin, Germany</b>
<i>(HALG).</i>	<i>Jun 2017</i>
<b>Workshop on Models and Algorithms for Planning and Scheduling Problems (MAPSP).</b>	<b>Seeon-Seebruck, Germany</b>
	<i>Jun 2017</i>
<b>International Collaboration Workshop in Algorithms</b>	<b>Santiago, Chile</b>
	<i>Jan 2017</i>

## Working Papers (under submission)

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**A Near Optimal Mechanism for Energy Aware Scheduling** (with A. Antoniadis) *Submitted to conference: International Colloquium on Automata, Languages, and Programming (ICALP)*

**SUPERSET: A (Super)Natural Variant of the Card Game SET** (with F. Botler, R. Hoeksma, K. Schewior and A. Tönnis) *Submitted to conference: International Conference on Fun with Algorithms (FUN)*