Adjerid Hamza

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Village du bas house number 93
Ouled Moussa
Boumerdes Algeria

EDUCATION

Institute of electrical and electronic engineering INELEC: One of the top three engineering universities in Algeria and the only engineering school where the instruction is in English**.**

- **Bachelor degree in electrical and electronics engineering**   **June 2014**
  (An overall grade, Top 90th percentile)
  Senior design project: Power transfer control in Photo-voltaic systems

- **Master in control engineering**   **June 2016**
  (An overall grade, Top 90th percentile)
  Master's thesis: Characteristic matrix polynomial assignment for a helicopter case study

- **PhD in electrical and electronics systems engineering**   **August 2021**
  PhD dissertation: Multi agent-based management of distribution networks

Virginia Polytechnic Institute and State University (Virginia tech)

- **Master in applied mathematics**   **August 2023**

- **PhD candidate in applied mathematics**   **August 2023-Now**

PREPRINTS REASERCH AND CONFERENCE PAPERS

- Hamza Adjerid, Amin Riad Maouche, Multi-Agent system-based decentralized state estimation method for active distribution networks, Computers & Electrical Engineering, Volume 86,2020,106652, ISSN 0045-7906.

- H. Adjerid and J. Borggaard, "Sum of Squares Approximations to Energy Functions," *2024 American Control Conference (ACC)*, Toronto, ON, Canada, 2024, pp. 3308-3315,

- H. Adjerid and J. Borggaard. "Energy function approximations for differential algebraic polynomial systems of Stokes-type". 2025, https://arxiv.org/abs/2507.18909

REASERCH TALKS

- "**Sum of squares approximations to energy functions",** Nonlinear Model Reduction for Control Workshop and Conference: 22-26 May 2023 at Virginia Tech.

- **"Nonlinear feedback control for Stokes-type DAEs",** Applied Numerical Analysis Seminar: March, 29th 2024 at Virginia Tech.

- **"Nonlinear feedback control for Stokes-type DAEs",** The Eleventh Graduate Student Conference: April 20-21st, 2024 at Clemson University.

- **"Nonlinear feedback control for Stokes-type DAEs"**, The 42nd Southeastern-Atlantic Regional Conference on Differential Equations 2024: November 9-10th 2025 at West Virginia University.

- **"Nonlinear balanced truncation and Nonlinear feedback control for Stokes-type DAEs",** AMS Southeastern Sectional Meeting Clemson, SC - Clemson University: March 8-9th, 2025 at Clemson University.

- **"Approximation of Control Energy Functions for Nonlinear DAEs of Stokes-type"**, Applied Numerical Analysis Seminar: April, 7th 2025 at Virginia Tech.

TEACHING EXPERIENCE

Class	Role
MATH 1025 Elementary Calculus (Fall 2021)	Recitation leader
MATH 1026 Elementary Calculus (Spring 2022)	Lab leader
MATH 1454 Introduction to Programming for Mathematical Problem-Solving (Fall 2022)	Grader
MATH 1214 Preparation for Calculus (Fall 2023)	Teacher of record
MATH 1214 Preparation for Calculus (Spring 2024)	Teacher of record

WORK EXPERIENCE

China State Construction Engineering Corporation   **January 2019 – July 2021**

Hyatt Regency Algiers Airport

Project engineer:

- Follow up and commissioning of the Building Management System solution for control of HVAC and the electrical systems of the newly constructed building.

Ibis, NOVOTEL, Oriental Park Business and Air Algeria Head office construction projects

High and Low courant Senior analyst:

- Design of low and high courant solutions for various projects.
- Coordination with different high/low courant sub-contractors for various projects.

Houari Boumediene International Airport Algiers

West Terminal New Construction   **March 2017-January 2019**

Project engineer:

- Writing up technical procedures and meeting reports.
- Project coordination and follow up/approval on various test reports and technical sheets
- Technical Audit of the equipment upon receipt and after installation
- Coordination meetings with the different sub-contractors
- Follow up of the different low courant installation

EMB FBF Algeria   **September 2016-March 2017**

- Electrical Installation Engineer: Supervision, installation and wiring of the electrical cabinet for metal-print production from the German industry KBA metal-print

September 2011-June 2015

Institute of electrical and electronic engineering IGEE

- Team leader of the Arduino section in Inelectronics student club: Supervision and elaboration of the team member's projects and coach at the Arduino university events
- Technical project team in Inelectronics student club: Automated switching light system

September 2013-June 2015

EFIEG Algeria

- Part time math and physics instructor for middle and high school students

Languages: Arabic French and English
Programming: C, C++, MATLAB, Julia
Electronics: Arduino, Proteus, MULTISIM, VHDL, Simulink, PowerWorld, AutoCad
Automation: Gx developer PLC programming Mitsubishi