

Daniel Delgado Uriarte

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EDUCATION

Texas A&M University

College Station, TX

M.S. Petroleum Engineering (Thesis), Petroleum Ventures Program

Expected Graduation: Aug 2027

- Rewrote the Petroleum Production Systems program with 63 calculations validated against the original Fortran code

Universidad de Deusto and UPV/EHU

Bilbao, Spain

B.S. Industrial Technology Engineering

Graduated: 2026

- Bachelor's thesis on H_2/CH_4 diffusion in polyethylene graded 10/10, leading to a first-author publication

EXPERIENCE

Harold Vance Department of Petroleum Engineering

College Station, TX

Graduate Researcher (Dr. Roman Shor)

Sep 2026 – Present

- Building a digital twin of the Maersk Inspirer drilling Equinor's Volve wells, calibrated with real-time WITSML data
- Trained a simulation-only stick-slip detector reaching 0.80–0.85 median AUC on 12 unseen Volve wells
- Developed neural network emulators 30,000 times faster than the simulator and a real-time Rust drilling engine

Harold Vance Department of Petroleum Engineering

College Station, TX

Thermal Reservoir Simulation and Machine Learning Project (PETE 669)

Sep 2026 – Present

- Migrated the class ECLIPSE 300 THERMAL model of a 310 °C reservoir to open-DARTS, matching producer mass rate within 0.3–0.8% after tracing the mismatch to water viscosity and wellbore steam
- Designed a two-level machine learning workflow: a general thermal surrogate for early estimates and a reservoir-specific Gaussian process surrogate with active learning that optimizes injector design
- Building automated tools (ECLIPSE deck reader, quality checker that flagged 3 errors in the class deck before simulation, DARTS translator, validator, and case factory) to cut studies from months to weeks

Independent Enhanced Oil Recovery Research

Bilbao, Spain

Researcher, Nanofluid and CO₂ EOR

Dec 2025 – Present

- Coupled 80,000-atom LAMMPS molecular dynamics of UiO-66 MOF nanofluids on asphaltene-aged clay to OPM Flow
- Ran a 1,643-case OPM Flow ensemble with Sobol sensitivity to map the CO₂ storage vs. oil recovery Pareto front

BHS

Bilbao, Spain

Founder, Hardware and Firmware Engineer

2022 – 2026

- Invented a hydrogen leak detector (Spanish utility model ES U202330768) and built its sensors, firmware, RF, and PCBs

Satlantis

Leioa, Spain

Bid Manager Intern

Jul 2025 – Aug 2025

- Built a complete software tool to classify and search bid documentation and client records for the bid management team

LEADERSHIP & INVOLVEMENT

Petroleum Ventures Program

College Station, TX

Member

Aug 2026 – Present

- Engaging with PVP board members and industry leaders across energy, finance, and entrepreneurship

SPE Texas A&M Student Chapter, Energy4me

College Station, TX

Volunteer, Educational Software and Videos

Sep 2026 – Present

- Volunteered to create bilingual Energy4me games, an iOS app, and videos teaching petroleum engineering to kids

PUBLICATIONS

Harold Vance Department of Petroleum Engineering

College Station, TX

Stanford Geothermal Workshop 2027 (First Author, Abstract Submitted)

Oct 2026

- Delgado Uriarte, D., & Shor, R. J. (2027).** *Stick-Slip and HFTO at Utah FORGE: What Surface Drilling Data Can and Cannot Detect*. Stanford Geothermal Workshop

Universidad de Deusto and UPV/EHU

Bilbao, Spain

ACS Applied Polymer Materials (First Author)

2026

- Delgado-Uriarte, D., & López, A. (2026).** *Ensemble-Dependent Diffusivity Selectivity in Amorphous Polyethylene (H_2/CH_4)*. ACS Applied Polymer Materials

SKILLS, AWARDS, & INTERESTS

Skills: Python, PyTorch, Rust, MATLAB | ECLIPSE 300, OPM Flow, LAMMPS, WITSML

Electronics: PCB design (KiCad), embedded C (nRF, STM32, ESP32, AVR), RF; designed a wireless vibration sensor with on-device machine learning for predictive maintenance

Awards: Spanish Utility Model ES U202330768, Bachelor's Thesis 10/10, International Podium Finishes in Stand-Up Paddle

Interests: Stand-Up Paddle, Drilling Automation | Languages: Spanish, English, French