

FRANCOIS BOTHA

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SUMMARY

Electrical Engineering candidate at Arizona State University (BSE, Electric Power and Energy Systems, expected 2027). Laboratory-trained in analog and digital electronics, embedded systems, and power-related coursework, with additional strength in programming, CAD, and hands-on fabrication. Seeking an engineering internship or entry-level technical role.

EDUCATION

B.S.E., Electrical Engineering — Electric Power and Energy Systems

Expected 2027

Arizona State University (ASU)

- Concentration in electric power and energy systems; current coursework in hardware design languages / programmable logic (EEE 333) and energy systems & power electronics (EEE 360).
- 99 semester-credit-hour block transferred into ASU from prior undergraduate electronic-engineering study; ASU record also includes C++ programming, engineering calculus sequence, differential equations, linear algebra, university physics with labs, and chemistry for engineers.
- Selected completed ASU coursework: CSE 100 Principles of Programming with C++ (A); MAT 265 Calculus for Engineers I (A); MAT 266 Calculus for Engineers II (B+); MAT 267 Calculus for Engineers III; MAT 275 Modern Differential Equations; MAT 343 Applied Linear Algebra; PHY 121/122 University Physics I + Lab; PHY 132 University Physics Lab II; CHM 114 General Chemistry for Engineers; EEE 350 Random Signal Analysis; ECN 211 Macroeconomic Principles.

TECHNICAL SKILLS

Electronics: Analog design, digital design (FPGA, VHDL), microwave engineering, antenna design, PCB design and layout, electromagnetic field theory, phase-locked loops (PLL), analog communications and modulation, electronic engineering design

Embedded systems: Microcontroller programming (Microchip, Texas Instruments, Atmel); serial communications including RS-232, I2C, and USB

Programming: C, C++, SQL, Git, Delphi; MATLAB / Simulink, PSpice, LTSpice, LabVIEW

CAD & EDA: SolidWorks, AutoCAD, Cadence, OrCAD; technical drawing / graphical communication

Power, signals & analysis: Energy systems and power electronics (in progress), random signal analysis, linear systems, control systems, modulation and communications systems, engineering statistics, numerical methods

Lab & instrumentation: Oscilloscope, multimeter, signal generator, network analyzer, spectrum analyzer; soldering; PCB prototyping and debug; measurement techniques and computer modeling

Manufacturing & shop: Manufacturing processes, materials science, practical wiring, introductory machining (fitting and turning), basic welding and brazing, woodwork, plumbing

Tools: Microsoft Office, Apple productivity tools, Microsoft Project, Visio; Windows, macOS, Linux

SELECTED ACADEMIC WORK

- Electronic engineering design studio work: specification exchange, subsystem integration, and team delivery of a working design.
- Community engineering project: designed and built interactive science-center exhibits as part of a student community-service module.
- Laboratory and practical modules covering wiring, workshop practice, measurement, and computer modeling of physical systems.

ACTIVITIES

- IEEE Student Member. Previously served as treasurer of a university IEEE student branch (2010–2011), including budgeting and branch operations.