

Temmam Nabil Altaie

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EDUCATION

Norwegian University of Science and Technology (NTNU) <i>Bachelor of Engineering, Electronic Systems (after preparatory science course, 2023–2024)</i> <ul style="list-style-type: none">Grade A in all four engineering project coursesCompleted: Electronics Design, Electronic Systems Design and Implementation I–III, Analog and Digital Electronics, Computer Networks for InstrumentationCurrent: Embedded Systems, Advanced Sensor Systems, Radio Communication (RF analysis with the Nordic nRF54L15 as case), bachelor's thesis	Trondheim, Norway Aug 2024 – Jun 2027
Vest-Lofoten Upper Secondary School <i>Sports and Physical Education</i>	Leknes, Norway Aug 2018 – Jun 2021

PROJECTS

Wearable Object Detection for the Blind <i>Python, YOLOv8, Raspberry Pi, ESP32</i> <ul style="list-style-type: none">Led software in a team of three; real-time YOLOv8n object detection on a Raspberry Pi 5 at 6–8 FPSMapped object position to seven zones, sent over UDP to an ESP32-C3 driving a haptic belt in under 100 msAdded offline Norwegian speech output (Piper) and speech recognition (Whisper) in multithreaded Python	Jan 2026 – Jun 2026
Bare-Metal Peripheral Drivers for STM32F411 <i>C, ARM Cortex-M4, STM32CubeIDE</i> <ul style="list-style-type: none">Wrote register-level drivers for GPIO, I²C, SPI, USART and clock configuration without vendor HAL libraries, about 4 700 lines of C including a custom device header with register mapsImplemented both blocking and interrupt-driven transfers with NVIC configuration and callback events; verified with test applications	Aug 2025 – Oct 2025
ECG Measurement System <i>LTspice, KiCad, ESP32, C++, JavaScript</i> <ul style="list-style-type: none">Designed an analog front end with 1000 V/V gain and 0.03–16 Hz bandwidth; verified in LTspice and on prototypeImplemented R-peak detection on an ESP32 with a 16-bit I²C ADC; heart rate within 1–3 BPM of a referenceStreamed live data over WebSocket to a web dashboard; four-layer PCB in KiCad	Aug 2025 – Nov 2025
Offline Voice Assistant for Smart Homes <i>ESP32, Python, Docker, Home Assistant</i> <ul style="list-style-type: none">Streamed I²S microphone audio from an ESP32 over WebSocket to local speech-to-text, triggering Home Assistant automations without cloud services; under 5 s response and up to 90 % accuracy	Jan 2025 – Jun 2025

TECHNICAL SKILLS

Programming: C, C++, Python, JavaScript, HTML, L^AT_EX
Hardware: ESP32, STM32, AVR, Raspberry Pi, analog filter and amplifier design, PCB layout
Interfaces: I²C, SPI, I²S, UART, PWM, UDP, WebSocket, Wi-Fi
Tools: KiCad, LTspice, Git, Linux, Docker, oscilloscope, signal generator
Languages: Norwegian (native), English (fluent), Arabic

EXPERIENCE

Learning Assistant <i>NTNU, Department of Electronic Systems</i> <ul style="list-style-type: none">Supervise lab and project work in Electronic System Design and Implementation I and IIPlanned and taught crash courses in C programming and analog filter design for about 17 students	Jan 2026 – Present Trondheim, Norway
Substitute Teacher <i>Leknes Lower Secondary School</i>	Jan 2023 – Jun 2023 Leknes, Norway
Conscript Service, Signal Horn Player <i>His Majesty the King's Guard, 3rd Company (Band and Drill)</i> <ul style="list-style-type: none">Signal horn in the music troop of a unit built on discipline, order and precision; assignments included the Platinum Jubilee in Windsor, a Balkan tour, military tattoos in Basel and Oslo, and events for heads of state	Sep 2021 – Sep 2022 Oslo, Norway
Part-Time Employee <i>Deli de Luca (Esso station), seasonal</i>	Jun 2021 – Present Leknes, Norway
Founder and Trumpet Player <i>Trompet ved Altaie (sole proprietorship)</i> <ul style="list-style-type: none">Run a small business performing at weddings, funerals and church services; handle clients and marketing	Jan 2018 – Present Norway

LEADERSHIP

Vice President <i>NTNUI Calisthenics</i> <ul style="list-style-type: none">Share responsibility for a club of 200+ athletes and coordinate a team of 14 coachesPlanned a training camp in Spain for 40 participants and wrote funding applications to the NTNUI board	Jan 2026 – Present Trondheim, Norway
Class Representative and Reference Group Member <i>NTNU, Electronic Systems</i> <ul style="list-style-type: none">Represent the class in regular meetings with faculty and teaching staff to improve courses	Aug 2024 – Present Trondheim, Norway