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ESEIAAT

Treball Final de Grau

Pressupost



**UNIVERSITAT POLITÈCNICA DE CATALUNYA**  
**BARCELONATECH**

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**Escola Superior d'Enginyeries Industrial,  
Aeroespacial i Audiovisual de Terrassa**

Grau en Enginyeria Electrònica Industrial i Automàtica

Aroel Gómez Clavell

**EMMAGATZEMATGE I DISTRIBUCIÓ DE  
PÍNDOLES PER A PASTILLERS I BLÍSTERS  
SETMANALS**

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Directora:  
Elisabet Almirall Arriero

Data d'entrega: 28/09/2021

Terrassa, Barcelona



Microcontrolador ELEGOO Mega 2560	<a href="https://www.amazon.es/ELEGOO-Microcontrolador-ATmega2560-ATmega16U2-Compatible/dp/B06Y3ZHPWC/ref=sr_1_2_sspa?mk_es_ES=%C3%85M%C3%85%C5%BD%C3%95%C3%91&amp;dchid=1&amp;keywords=elegoo+mega&amp;qid=1632588821&amp;sr=8-2-spons&amp;psc=1&amp;spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUFkSk9QN0NFMT0tTMUUmZW5jcnlwdGVkSWQ9QTA2MDUxMDUxSURGMEIET1QwMkMyJmVuY3J5cHRlZEFkSWQ9QTA5MjQ4NTQxWU5NM0VUUK85VkdYJndpZGdldE5hbWU9c3BfYXRmJmFjdGlvb11jbGlja1JlZGlyZWNOJmRvTm90TG9nQ2xpY2s9dHJ1ZQ==">https://www.amazon.es/ELEGOO-Microcontrolador-ATmega2560-ATmega16U2-Compatible/dp/B06Y3ZHPWC/ref=sr_1_2_sspa?mk_es_ES=%C3%85M%C3%85%C5%BD%C3%95%C3%91&amp;dchid=1&amp;keywords=elegoo+mega&amp;qid=1632588821&amp;sr=8-2-spons&amp;psc=1&amp;spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUFkSk9QN0NFMT0tTMUUmZW5jcnlwdGVkSWQ9QTA2MDUxMDUxSURGMEIET1QwMkMyJmVuY3J5cHRlZEFkSWQ9QTA5MjQ4NTQxWU5NM0VUUK85VkdYJndpZGdldE5hbWU9c3BfYXRmJmFjdGlvb11jbGlja1JlZGlyZWNOJmRvTm90TG9nQ2xpY2s9dHJ1ZQ==</a>
Ramp 1.4	<a href="https://www.amazon.es/ARCELI-Controlador-Impresora-Shield-Arduino/dp/B07BSRS9WS/ref=pd_ybh_a_146?encoding=UTF8&amp;psc=1&amp;refRID=YGXRZ5MGGDDMP2XBK29T">https://www.amazon.es/ARCELI-Controlador-Impresora-Shield-Arduino/dp/B07BSRS9WS/ref=pd_ybh_a_146?encoding=UTF8&amp;psc=1&amp;refRID=YGXRZ5MGGDDMP2XBK29T</a>
Finals de carrera	<a href="https://www.amazon.es/Movilideas-Interruptor-Mec%C3%A1nico-Impresoras-Makerbot/dp/B08GYHQ4NJ/ref=pd_ybh_a_114?encoding=UTF8&amp;psc=1&amp;refRID=DVXQ058AEA1E5Q9KGGXG">https://www.amazon.es/Movilideas-Interruptor-Mec%C3%A1nico-Impresoras-Makerbot/dp/B08GYHQ4NJ/ref=pd_ybh_a_114?encoding=UTF8&amp;psc=1&amp;refRID=DVXQ058AEA1E5Q9KGGXG</a>
Eix òptic	<a href="https://www.amazon.es/gp/product/B07MV83GXB/ref=ox_sc_act_title_6?smid=A377Z8NE9XHCBB&amp;psc=1">https://www.amazon.es/gp/product/B07MV83GXB/ref=ox_sc_act_title_6?smid=A377Z8NE9XHCBB&amp;psc=1</a>
Bloc de rodament lineal	<a href="https://www.amazon.es/gp/product/B091Y4QZ7L/ref=ox_sc_act_title_8?smid=A3VAC2KFJMMUMK&amp;psc=1">https://www.amazon.es/gp/product/B091Y4QZ7L/ref=ox_sc_act_title_8?smid=A3VAC2KFJMMUMK&amp;psc=1</a>
Pack de corretja i engranatges	<a href="https://www.amazon.es/dp/B094DGSN1R/ref=sspa_detail_0?psc=1&amp;pd_rd_i=B094DGSN1R&amp;pf_rd_p=444f018a-62d7-48b2-a88a-cea784dc658f&amp;pd_rd_wg=l8hWT&amp;pf_rd_r=39Y09RAQB6FKD4GYAZNV&amp;pd_rd_w=ybO7G&amp;pd_rd_r=275e33e9-568e-4927-8db8-3b3011b443b5">https://www.amazon.es/dp/B094DGSN1R/ref=sspa_detail_0?psc=1&amp;pd_rd_i=B094DGSN1R&amp;pf_rd_p=444f018a-62d7-48b2-a88a-cea784dc658f&amp;pd_rd_wg=l8hWT&amp;pf_rd_r=39Y09RAQB6FKD4GYAZNV&amp;pd_rd_w=ybO7G&amp;pd_rd_r=275e33e9-568e-4927-8db8-3b3011b443b5</a>
PLA	<a href="https://www.amazon.es/gp/product/B07T616NXL/ref=px_yo_dt_b_asin_title_o01_s00?ie=UTF8&amp;psc=1">https://www.amazon.es/gp/product/B07T616NXL/ref=px_yo_dt_b_asin_title_o01_s00?ie=UTF8&amp;psc=1</a>
Cargols, volanderes i rosques	Comprats a una ferreteria local

Font d'alimentació	<a href="https://www.amazon.es/LEDMO-Transformador-5A-AC100-240V-12V/dp/B07YWSDK87/ref=sr_1_1_sspa?adgrpid=61627893252&amp;dchild=1&amp;gclid=CjwKCAjwmqKJBhAWEiwAMvGt6Nf374BVK10RFUvif78Pc8qxuhHMjh9CtN8cyeSlofcm-1ffH3molBoCYMoQAvD_BwE&amp;hvadid=275362082590&amp;hvdev=c&amp;hvlcophy=1005434&amp;hvnetw=g&amp;hvgmt=e&amp;hvrand=7450546817463395854&amp;hvtargid=kwd-298366854384&amp;hydadcr=11833_1842822&amp;keywords=transformador+12v+5a&amp;qid=1630086049&amp;sr=8-1-spons&amp;psc=1&amp;spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUFUEFaTVlPU0JMT0lmZW5jcnlwdGVkSWQ9QTA0NDc4MzYzVTQ3RzIPNE1aMVgzJmVuY3J5cHRlZEFkSWQ9QTEwMzMyNDkyUkRKRExRWkpNEhFJndpZGldE5hbWU9c3BfYXRmJmFjdGlvbj1jbGlja1JlZGlyZWNOJmRvTm90TG9nQ2xpY2s9dHJlZQ==">https://www.amazon.es/LEDMO-Transformador-5A-AC100-240V-12V/dp/B07YWSDK87/ref=sr_1_1_sspa?adgrpid=61627893252&amp;dchild=1&amp;gclid=CjwKCAjwmqKJBhAWEiwAMvGt6Nf374BVK10RFUvif78Pc8qxuhHMjh9CtN8cyeSlofcm-1ffH3molBoCYMoQAvD_BwE&amp;hvadid=275362082590&amp;hvdev=c&amp;hvlcophy=1005434&amp;hvnetw=g&amp;hvgmt=e&amp;hvrand=7450546817463395854&amp;hvtargid=kwd-298366854384&amp;hydadcr=11833_1842822&amp;keywords=transformador+12v+5a&amp;qid=1630086049&amp;sr=8-1-spons&amp;psc=1&amp;spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUFUEFaTVlPU0JMT0lmZW5jcnlwdGVkSWQ9QTA0NDc4MzYzVTQ3RzIPNE1aMVgzJmVuY3J5cHRlZEFkSWQ9QTEwMzMyNDkyUkRKRExRWkpNEhFJndpZGldE5hbWU9c3BfYXRmJmFjdGlvbj1jbGlja1JlZGlyZWNOJmRvTm90TG9nQ2xpY2s9dHJlZQ==</a>
Taulell de fusta 60x120x1	<a href="https://www.leroymerlin.es/fp/11034261/tablero-de-contrachapado-crudo-60x120x1-cm-anchoxaltoxgrosor">https://www.leroymerlin.es/fp/11034261/tablero-de-contrachapado-crudo-60x120x1-cm-anchoxaltoxgrosor</a>
Motor 28BYJ-48 i driver ULN2003	<a href="https://www.amazon.es/ELEGOO-28BYJ-48-ULN2003-Conductor-Arduino/dp/B06XRGZ9GR/ref=sr_1_1_sspa?mk_es_ES=%C3%85M%C3%85%C5%BD%C3%95%C3%91&amp;dchild=1&amp;keywords=28BYJ-48&amp;qid=1630079771&amp;sr=8-1-spons&amp;psc=1&amp;spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUFUEzQThWOUeWVlJWQVM5JmVuY3J5cHRlZElkPUeWMDk2NTQwMUE5MVRWWEJOOudDNyZlbnNyeXB0ZWRBZEIkPUExMDI3OTkyMkE5SzRTRTNBS1JPUSZ3aWRnZXROYW1lPXNwX2F0ZiZlY3Rpb249Y2xpY2tSZWRpcmVjdCZkb05vdExvZ0NsaWNrPXRydWU=">https://www.amazon.es/ELEGOO-28BYJ-48-ULN2003-Conductor-Arduino/dp/B06XRGZ9GR/ref=sr_1_1_sspa?mk_es_ES=%C3%85M%C3%85%C5%BD%C3%95%C3%91&amp;dchild=1&amp;keywords=28BYJ-48&amp;qid=1630079771&amp;sr=8-1-spons&amp;psc=1&amp;spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUFUEzQThWOUeWVlJWQVM5JmVuY3J5cHRlZElkPUeWMDk2NTQwMUE5MVRWWEJOOudDNyZlbnNyeXB0ZWRBZEIkPUExMDI3OTkyMkE5SzRTRTNBS1JPUSZ3aWRnZXROYW1lPXNwX2F0ZiZlY3Rpb249Y2xpY2tSZWRpcmVjdCZkb05vdExvZ0NsaWNrPXRydWU=</a>
Resistències 10 k ohms	<a href="https://www.amazon.es/Dolity-Conjunto-Resistores-Resistencia-resistencia/dp/B07CHLZCN7/ref=sr_1_5?dchild=1&amp;keywords=resistencias+10k&amp;qid=1630081470&amp;s=electronics&amp;sr=1-5">https://www.amazon.es/Dolity-Conjunto-Resistores-Resistencia-resistencia/dp/B07CHLZCN7/ref=sr_1_5?dchild=1&amp;keywords=resistencias+10k&amp;qid=1630081470&amp;s=electronics&amp;sr=1-5</a>
Resistències 220 ohms	<a href="https://www.amazon.es/POPESQ%C2%AE-Resistencia-Utilizable-Tambien-A2456/dp/B07L2MKDYN/ref=sr_1_7?dchild=1&amp;keywords=resistencia+220&amp;qid=1630081591&amp;sr=8-7">https://www.amazon.es/POPESQ%C2%AE-Resistencia-Utilizable-Tambien-A2456/dp/B07L2MKDYN/ref=sr_1_7?dchild=1&amp;keywords=resistencia+220&amp;qid=1630081591&amp;sr=8-7</a>
Fototransistor i Foto-emissor	<a href="https://es.aliexpress.com/i/32950109432.html">https://es.aliexpress.com/i/32950109432.html</a>

Els preus als webs de compra poden variar amb el temps